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AD/ADVANTAGE

MANTIS Administration
OS/390, VSE/ESA

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AD/Advantage® MANTIS Administration OS/390, VSE/ESA

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About this book

Using this document

MANTIS is an application development system that consists of design facilities (e.g., screens and files) and a programming language. This manual describes the Master User functionality of MANTIS.

Document organization

The information in this manual is organized as follows:

Chapter 1—Overview of MANTIS administration
Describes the MANTIS system and provides overview information on utilities available to the Master User.

Chapter 2—Master User's extended functionality
Describes the facilities available to the Master User and how to access them.

Chapter 3—MANTIS utilities
Describes the utilities available when selecting the MANTIS Utilities option from the Master User Facility Selection menu.

Chapter 4—MANTIS customization and maintenance
Provides information on customization, including sample CICS table entries and JCL.

Chapter 5—Shared Pool Facility
Describes how to place frequently used programs and DL/I call profiles in a Shared Pool.

Chapter 6—Transfer Facility extended functionality
Provides information on the extended functionality of the Transfer Facility that is available to the Master User only.

Chapter 7—AD/Advantage Administration
Describes how to set up, maintain, and use the components of AD/Advantage.

Chapter 8—MANTIS Code Patch Utility (MCPU)
Describes the MANTIS Code Patch Utility (MCPU), which allows the Master User to create, maintain, and apply patches (corrections) to MANTIS programs and other systems written in MANTIS code.

Chapter 9—Authorize MANTIS/Options Utility
Describes the Authorize MANTIS/Options Utility, which allows you to determine which options the users can access and for how long.

Chapter 10—User exits and utility programs
Describes user exits and utility programs. User exits enable you to modify MANTIS's normal processing. Utility programs enable you to change a MANTIS task's environment by calling an interface program or executing a non-MANTIS program.

Appendix A—List of Extended Dialog Profile Records (EDPR)
Shows the Extended Dialog Profile Records supplied on the Dialog Directory List of the user PROFILE_DEFAULTS.

Appendix B—Line editor functions
Describes how to use the full-screen editor to create and modify a program in the Component Engineering Facility.

Appendix C—DL/I system administration considerations
Discusses DL/I installation and considerations for the system administrator.

Appendix D—MANTIS SQL support system administration considerations
Discusses static and extended dynamic execution modes and SQL Support Modules.

Glossary of terms

Index

Conventions

The following table describes the conventions used in this document series:

Convention	Description	Example

`Constant width type`	Represents screen images and segments of code.	`Screen Design Facility`
		`GET NAME LAST`
		`INSERT ADDRESS`

Slashed b (b̸)	Indicates a space (blank). The example indicates that a password can have a trailing blank.	`WRITEPASSb̸`
Brackets [ ]	Indicate optional selection of parameters. (Do not attempt to enter brackets or to stack parameters.) Brackets indicate one of the following situations.	
	A single item enclosed by brackets indicates that the item is optional and can be omitted. The example indicates that you can optionally enter a program name.	`COMPOSE [`*`program-name`*`]`
	Stacked items enclosed by brackets represent optional alternatives, one of which can be selected. The example indicates that you can optionally enter NEXT, PRIOR, FIRST, or LAST. (NEXT is underlined to indicate that it is the default.)	<u>**NEXT**</u> **PRIOR** **FIRST** **LAST**

Convention	Description	Example
Braces { }	Indicate selection of parameters. (Do not attempt to enter braces or to stack parameters.) Braces surrounding stacked items represent alternatives, one of which you must select. The example indicates that you must enter FIRST, LAST, or a value for *begin*.	$\left\{\begin{array}{l}\textbf{FIRST}\\ \textit{begin}\\ \textbf{LAST}\end{array}\right\}$
<u>Underlining</u> (In syntax)	Indicates the default value supplied when you omit a parameter. The example indicates that if you do not specify ON, OFF, or a row and column destination, the system defaults to ON.	$\textbf{SCROLL}\left[\begin{array}{l}\underline{\textbf{ON}}\\ \textbf{OFF}\\ \left[\textit{row}\right]\left[,\textit{col}\right]\end{array}\right]$
	Underlining also indicates an allowable abbreviation or the shortest truncation allowed. The example indicates that you can enter either PRO or PROTECTED.	<u>PRO</u>TECTED
Ellipsis points...	Indicate that the preceding item can be repeated. The example indicates that you can enter (A), (A,B), (A,B,C), or some other argument in the same pattern.	(argument,...)

Convention	Description	Example
UPPERCASE	Indicates MANTIS reserved words. You must enter them exactly as they appear. The example indicates that you must enter CONVERSE exactly as it appears.	`CONVERSE name`
Italics	Indicate variables you replace with a value, a column name, a file name, and so on. The example indicates that you can supply a name for the program.	`COMPOSE [program-name]`
Punctuation marks	Indicate required syntax that you must code exactly as presented. ( ) parentheses . period , comma : colon ; semicolon ' single quotation mark " " double quotation marks	$[\text{LET}]_v \begin{bmatrix} (i) \\ (i,j) \end{bmatrix} [\text{ROUNDED}(n)] = e1\,[,e2,e3\ldots]$

MANTIS documentation series

MANTIS is an application development system designed to increase productivity in all areas of application development, from initial design through production and maintenance. MANTIS is part of AD/Advantage, which offers additional tools for application development. Listed below are the manuals offered with MANTIS in the IBM® mainframe environment, organized by task. You may not have all the manuals listed here.

MASTER User tasks

♦ *MANTIS Installation, Startup, and Configuration, MVS/ESA, OS/390,* P39-5018

♦ *MANTIS Installation, Startup, and Configuration, VSE/ESA,* P39-5019

♦ *MANTIS Administration, OS/390, VSE/ESA*, P39-5005

♦ *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004*

♦ *MANTIS Administration Tutorial, OS/390, VSE/ESA,* P39-5027

♦ *MANTIS XREF Administration, OS/390, VSE/ESA*, P39-0012

General use

♦ *MANTIS Quick Reference, OS/390, VSE/ESA*, P39-5003

♦ *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001

♦ *MANTIS Language, OS/390, VSE/ESA*, P39-5002

♦ *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013

♦ *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004*

♦ *AD/Advantage Programming*, P39-7001

♦ *MANTIS DB2 Programming, OS/390, VSE/ESA*, P39-5028

- *MANTIS SUPRA SQL Programming, OS/390, VSE/ESA*, P39-3105

- *MANTIS XREF, OS/390, VSE/ESA, OpenVMS*, P39-0011

- *MANTIS Entity Transformers*, P39-0013

- *MANTIS DL/I Programming, OS/390, VSE/ESA*, P39-5008

- *MANTIS SAP Facility, OS/390, VSE/ESA*, P39-7000

- *MANTIS WebSphere MQ Programming*, P39-1365

- *MANTIS Application Development Tutorial, OS/390, VSE/ESA*, P39-5026
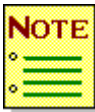
> **NOTE**
>
> Manuals marked with an asterisk (*) are listed twice because you use them for both MASTER User and general tasks.

Educational material

AD/Advantage and MANTIS educational material is available from your regional Cincom education department.

1

Overview of MANTIS administration

MANTIS is an application development system for the Transaction Server (CICS) environment that consists of a language used to write programs and facilities for creating MANTIS entities (screens, files, etc.). MANTIS maintains MANTIS entities in its own cluster. MANTIS enables users to design applications interactively without having to use coding sheets, job control statements, source decks, or compilers/translators.

The MANTIS Program Design Facility offers several features that simplify program development and maintenance. Included are system-controlled date and time stamps for program maintenance, extended program profile information, online help screens, wild card processing, automated operations using a trigger file, and both a menu-driven and command-driven design.

Refer to *MANTIS Installation, Startup, and Configuration, MVS/ESA, OS/390*, P39-5018, or *MANTIS Installation, Startup, and Configuration, VSE/ESA*, P39-5019, for information on how to install MANTIS in your environment. MANTIS also operates in batch mode under OS/390 or VSE/ESA, and generally runs the same as CICS MANTIS. For more information about MANTIS in batch mode, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

This manual describes the system administration utilities that are available only to the Master User, such as setting up user profiles (including audit trail, and PF keys and options), specifying which users can use which facility programs, altering sign-on and termination, and printing specifications. Information is provided on using MANTIS utilities to establish system security, set CEF options, edit the text of MANTIS and DBCS messages, maintain files and internal entity codes, display program statistics, check bound programs, and transfer entities.

This manual also provides information for the Master User to customize and maintain the system, set terminal and printer attributes, capture data from a background task, share frequently used programs among users, and run reports.

MANTIS uses one load module and one VSAM KSDS file for its library. MANTIS dynamically allocates space for individual users in the operating space, independent of other system processing. In addition, MANTIS can use up to seven external VSAM files, as in the following figure, to support general design facilities and the Component Engineering Facility (CEF).

Each terminal that signs on to MANTIS is initially allocated virtual storage based on the values specified for WAINIT and WAINCR, which increases or decreases dynamically as individual requirements change. (See "Customization Macro" on page 252 for more information on the WAINIT and WAINCR parameters.) The following figure shows the MANTIS development architecture. ("MANTIS auxiliary support files" on page 24 explains these files.)
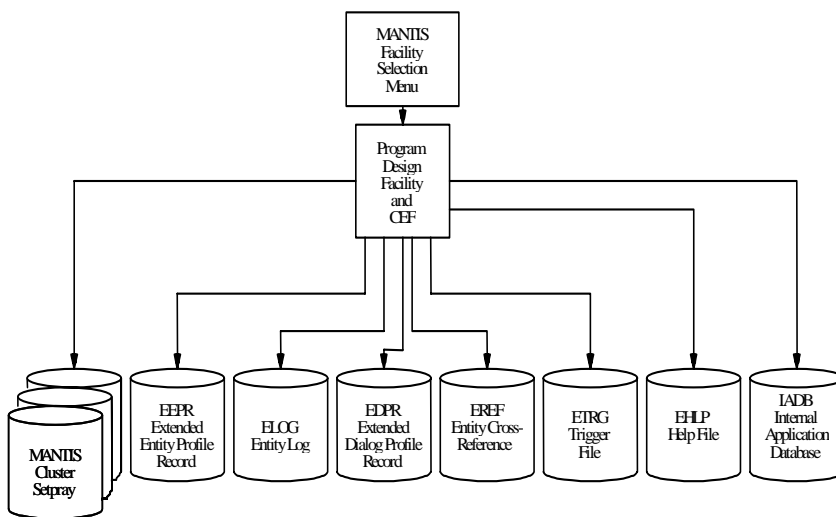
MANTIS Development Architecture

CICS MANTIS

MANTIS appears to CICS as a normal application task, shown in the following figure. It consists of one load module that runs in either conversational or pseudoconversational mode, and one global data area anchor module. The following figure shows the CICS MANTIS development environment. (The files required at your site depend upon the environment in which MANTIS runs and the options that are installed.):
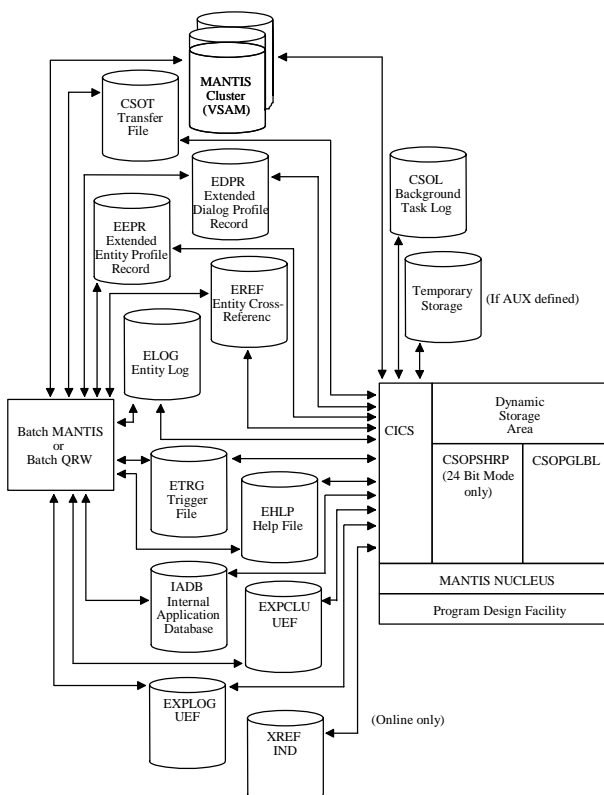
MANTIS auxiliary support files

When MANTIS is installed, up to ten external files are necessary to support the functions of the system. These files are described in the following table. You can alter the default file names for your environment by using the utility described in "MANTIS utilities" on page 131. You can record your customized names in the spaces under the user-defined name column below.

You can also find external file views on some of the auxiliary support files on MASTER. You can create MANTIS programs to produce reports on these files.

Default name	User-defined name	Description
EEPR	_____	**Extended entity profile record.** Provides extended program profile information, including library, program name, description, status, type, version, date and time of last change, and date and time when the last action was issued on a program. These records are created, deleted, and updated when you issue an action on a program. This file is required in the development environment.
EDPR	_____	**Extended dialog profile record.** Makes system actions available to the user and gives the Master User flexibility and control over user and system defaults. These records are updated by the Master User commands KEYS and OPTN. For more information about using these commands, see "Maintain user PF keys and options" on page 63. This file is required in the development environment.
EHLP	_____	**Extended Help.** Contains system help information for each function in the Program Design Facility. These records are supplied at installation and cannot be changed. This file is not required in any environment. However, if this file is not available, a Not Found pop-up window will display when Help is requested.
ELOG	_____	**Entity log.** Shows a record of program activity created when a user issues an action on a program. These records display in the Audit Trail List. However, the user profile option, Log CEF Operations, turns the entity log on and off for individual users. For more information on this option, refer to "Insert a user profile" on page 51 and "Cleanup ETRG file" on page 166. This file is not required if Log CEF Operations is set to No for all users.

Default name	User-defined name	Description
EREF	_____	**Extended cross-reference.** Contains the records that were built with the CREF (Cross-Reference) action. You can view these records on the Bill of Materials List and/or Component Where Used List. The EREF records are defined when you issue CREF. This file is only required if you use the Component Cross Reference feature of the Component Engineering Facility.
ETRG	_____	**Trigger file.** Holds a record of the action that a user has issued for later online or batch processing. These records are created when you set the Entry Option Immediate? field to No before issuing an action. This file is always required for installation and will be required if you use the Online Triggering Facility or the Batch Dialog Facility.
IADB	_____	**Internal application database.** Holds internal application records for the Shared Pool Nomination/ Running List. These records are created, deleted, and updated when maintaining, loading or purging the running Shared Pool. This file is required if you use the Shared Pool Facility or if you have limited terminal support.
CSOL	_____	**Background task log file.** Holds log records indicating the start and end of background tasks, and any errors that might have occurred. This file is required if you use the Shared Pool Facility, or if you run background MANTIS tasks.
EXPCLU	_____	**Universal Export file.** Contains MANTIS entities that have been exported from a MANTIS cluster. This file is required if you use the Universal Export Facility.
EXPLOG	_____	**Universal Export log file.** Contains records indicating the success or failure of importing or exporting MANTIS entities using the Universal Export Facility. This file is required if you use the Universal Export Facility.

You should schedule a reorganization of the MANTIS VSAM files to occur regularly. The table below does the following for MANTIS VSAM files:

♦ Describes them (first three columns)

♦ Explains when MANTIS uses them ("Use" column)

♦ Provides suggestions for their maintenance ("Reorganize" column)

Name	Type	Update activity	Use	Reorganize
SETPRAY	KSDS	Varies	Libraries and MANTIS files	Back up/restore based on activity; split files, fragments possible
CSOT	KSDS	Varies	Transfer	Back up/restore or delete/ define; multiple copies possible
CSOL *	ESDS	Sequential insert	Background task log	Delete/define
EDPR	KSDS	Mostly read	Dialog profiles	Back up/restore after changes
EEPR	KSDS	Varies	Program profiles	Back up/restore based on activity
ELOG *	KSDS	Sequential insert	Audit trail of program changes	Back up/restore if LOG = Y
EHLP	KSDS	Read-only	Online help	After install only
EREF	KSDS	Varies	Component cross-reference	Back up/restore based on activity
ETRG *	KSDS	Sequential insert and delete	IMMEDIATE=N actions—trigger and Batch Dialog Facility	Back up/restore or delete/define
EXPCLU	ESDS	Sequential read and insert	Universal Export Facility (UEF)	Delete/define
EXPLOG	ESDS	Sequential insert	Universal Export Facility (UEF)	Delete/define
IADB	KSDS	Varies	Shared Pool and terminal lists	Back up/restore after major changes to Shared Pool list
ADVACC *	KSDS	Sequential insert	AD/Advantage accounting	Back up/restore based on activity

* These files tend to grow extremely large if used and not reorganized regularly.

Considerations for the Master User

NOTE

To avoid conflicts with other programs, MANTIS does not use the COMMAREA. If the COMMAREA is passed to MANTIS, it is passed to other applications invoked from MANTIS. For information about the COMMAREA interface, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

The following sections discuss considerations that can affect how you set up your installation:

Reentrant MANTIS programs

MANTIS programs are reentrant, allowing all tasks executing the same program to use the same copy of the program. This eliminates redundant programs and conserves memory.

The following figure shows the Program Work Area which contains only the nonchanging program code allowing reentrant programs:

Program Work Area 2	Vocabulary Work Area 1	Data Work Area 1
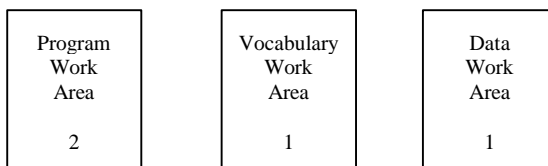
1. Changes during execution

2. Does not change during execution (reentrant code)

In order for you to take advantage of the reentrancy of MANTIS programs, you must have the High Performance Option, which includes the Shared Program Pool.

Reentrant programs in the Shared Pool

All MANTIS programs executed from the Shared Pool are reentrant. With reentrant programs, program data is stored in your Data Work Area, and you execute the program stored in the Shared Pool. The following figure demonstrates how the Shared Pool works:
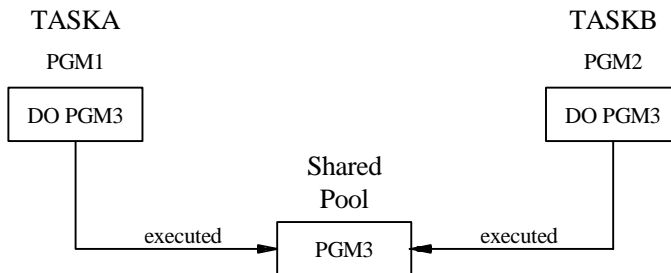
MANTIS above the 16 MB line

MANTIS can execute above the 16 MB line, freeing memory below the line for other applications. AMODE, addressing mode, is the address length MANTIS is prepared to handle. Values for AMODE are 24, 31, and ANY with a default of 24. RMODE, residency mode, specifies where MANTIS is expected to reside. Values for RMODE are 24 and ANY with a default of 24. The link-edit statement AMODE(31),RMODE(ANY), located in the linkdeck, puts MANTIS above the 16 MB line, if possible, and in 31-bit addressing mode. If you do not want MANTIS to reside or acquire storage above the 16MB line, remove the MODE statement from your MELMANT linkdeck (OS/390) or your MDLMANT.A linkdeck (VSE/ESA).

The following sections discuss "Storage requests in CICS" on page 30, running the "Shared Pool in XA" on page 30, and "Calls to included interfaces, RDM, PDM, and DL/I" (connecting to databases and interfaces running above and below the 16 MB line) on page 31.

NOTE

MANTIS can run below the 16 MB line and the Shared Pool can be above the 16 MB line. If this is desired, link MANTIS with AMODE(31), RMODE(24). For non-XA environments, both MANTIS and the Shared Pool run below the 16 MB line. In this case link MANTIS with AMODE(24), RMODE(24). The Shared Pool is in CSOPSHRP modules when below the 16 MB line.

NOTE

Batch MANTIS does not reside or acquire storage above the 16MB line.

Storage requests in CICS

Requests for storage by AMODE 24 programs are obtained below the 16 MB line. Where storage is obtained for requests by AMODE 31 programs depends on the amount of storage requested. A request for 4K or more is obtained from above the 16 MB line, while requests for less than 4K come from below the line. In AMODE 31, MANTIS rounds internal requests of less than 4K to 4K before calling CICS to ensure the storage comes from above the 16 MB line.

Shared Pool in XA

If MANTIS is AMODE 31, storage for the Shared Pool is automatically obtained above the 16 MB line (see the following figure). The amount of memory obtained depends on the size of the Shared Pool being loaded plus the number of programs and DL/I Call Profiles times 32. That is, Shared Pool Memory = Total Size of all Shared Pool Entities + (Total Number of Entries * 32) + 32. (The Total Size of all Shared Pool Entities is rounded to the next highest 4K boundary.)

NOTE
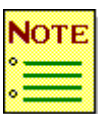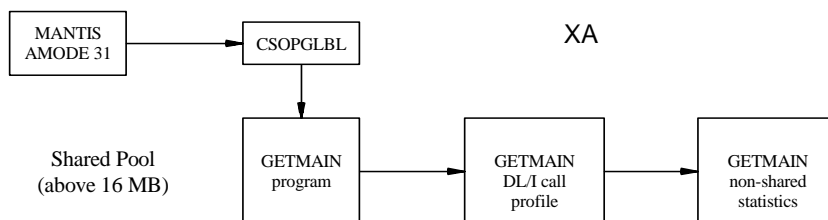
MANTIS can be below 16 MB (RMODE 24) or above 16 MB (RMODE ANY).
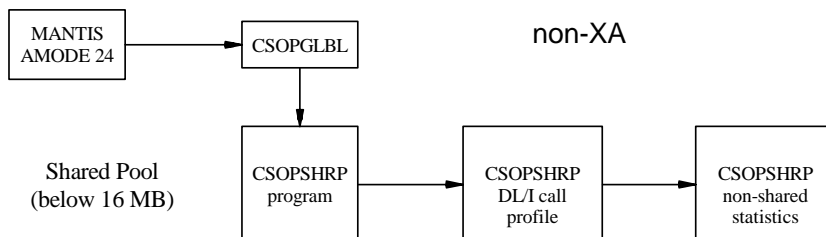
Calls to included interfaces, RDM, PDM, and DL/I

For this release of MANTIS, the Customization Macro parameter XA=(INTERFACES,RDM,PDM,DLI) describes the following applications that are AMODE 31 (see page 315 for details on the XA= parameter):

Options for the XA= parameter are:

♦   XA=INTERFACES refers to external and included interfaces (those linked with MANTIS). If specified, all interfaces must support 31-bit addressing mode.

♦   XA=PDM or XA=RDM must be coded only if you have the XA versions of the PDM or RDM.

♦   XA=DLI must be coded only if you have the XA version of DLI.

When MANTIS is AMODE 31 and the other application is AMODE 24, MANTIS automatically switches to AMODE 24, calls the application, then switches back to AMODE 31. In this case, the interface area is obtained below the 16 MB line. When MANTIS and the application are both AMODE 31, the interface area is obtained from above the 16 MB line. For other combinations of AMODE, MANTIS does not need to change addressing mode. The following figures illustrate possible combinations for RDM. In the first two illustrations, MANTIS interfaces can be substituted for RDM.

In the following illustration, MANTIS (running above or below the 16 MB line) is communicating with interface programs and the RDM running below the 16 MB line:
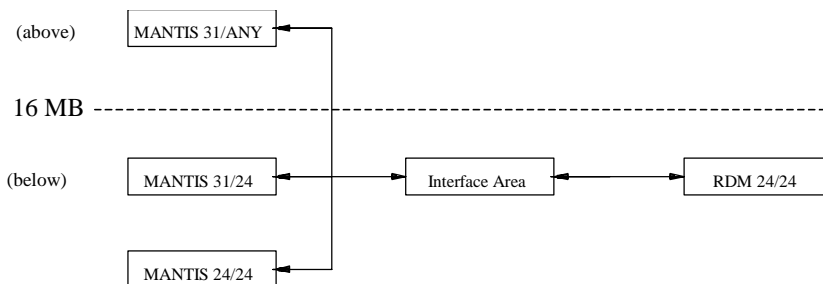
In the following illustration, MANTIS (running above or below the 16 MB line) is communicating with interface programs (running above or below the 16 MB line) and RDM running above the 16 MB line:
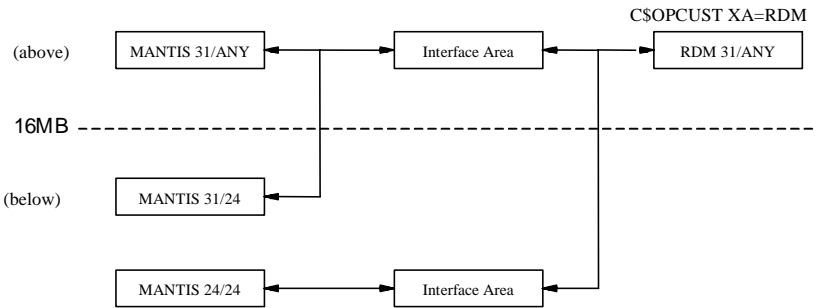
```
                                                          C$OPCUST XA=RDM
(above)   ┌──────────────┐      ┌────────────────┐      ┌──────────────┐
          │ MANTIS 31/ANY│◄─────┤ Interface Area │◄─────┤  RDM 31/ANY  │
          └──────────────┘      └────────────────┘      └──────────────┘

16MB  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

(below)   ┌──────────────┐
          │ MANTIS 31/24 │◄─────
          └──────────────┘

          ┌──────────────┐      ┌────────────────┐
          │ MANTIS 24/24 │◄─────┤ Interface Area │◄─────
          └──────────────┘      └────────────────┘
```

In the following illustration, MANTIS (running above or below the 16 MB line) is communicating with interface programs (running above or below the 16 MB line) and RDM running below the 16 MB line:

```
(above)   ┌──────────────┐      ┌────────────────┐
          │ MANTIS 31/ANY│◄─────┤ Interface Area │◄─────
          └──────────────┘      └────────────────┘

16 MB  - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                        ┌──────────────┐
                                                        │  RDM 31/24   │
(below)   ┌──────────────┐                              └──────────────┘
          │ MANTIS 31/24 │◄─────                        C$OPCUST XA=RDM
          └──────────────┘

          ┌──────────────┐      ┌────────────────┐
          │ MANTIS 24/24 │◄─────┤ Interface Area │◄─────
          └──────────────┘      └────────────────┘
```
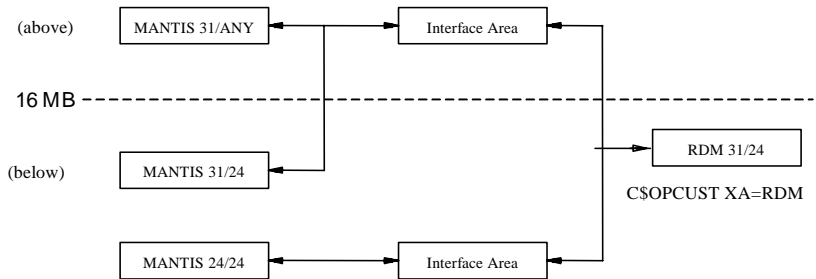
MANTIS residency

MANTIS can run nonresident (RES=NO) and can be NEWCOPYd. RES=YES is not required for MANTIS. Global areas and pointers have been moved to a separate program named CSOPGLBL. RES=YES is not required for CSOPGLBL. CSOPGLBL becomes resident when MANTIS LOADs it with the HOLD option. After a NEWCOPY of MANTIS, the LOAD for CSOPGLBL locates the resident CSOPGLBL, as in the following figure.
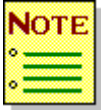
NOTE
CSOPGLBL must not be NEWCOPYd, deleted, or released. If CSOPCLBL is NEWCOPYd, tasks that are rolled out to temporary storage at the time abend with an error code of MANG when rolled back in.

When running more than one MANTIS under a single CICS session, you can change the name of CSOPGLBL by using the Customization Macro parameter, GLBLMOD=name.
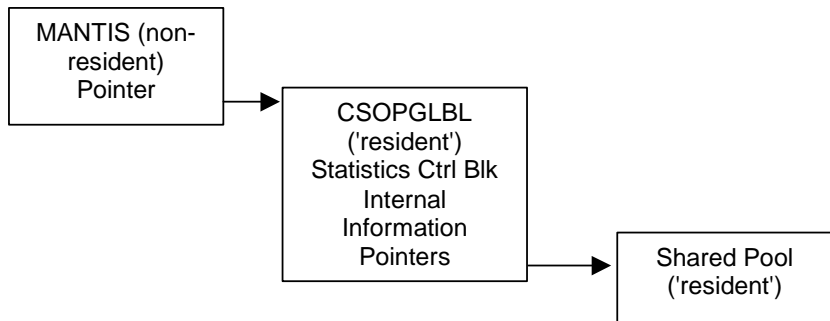
Shared Pool features

You can have an unlimited number of programs in the Shared Pool.

Hashing on the Shared Pool allows direct access, eliminating potential performance problems due to serial reading. Shared programs are stored and displayed alphabetically for easier management by the Master User. Usage statistics are kept on entities in the Shared Pool. You can also specify how many nonshared entities on which you wish to keep statistics.

You can load DL/I qualified and unqualified call profiles into the Shared Pool, eliminating enqueuing and searching tables, and writing to temporary storage.

The Shared Pool can be built by a CICS background task started from the Program Load Table (PLT). See "Shared Pool Facility" on page 337 for more information.

Split SETPRAY operation

To improve I/O and reduce access contention, you can split the MANTIS directory, SETPRAY, into multiple files and place them on different disk packs. Placing CONTROL and MASTER users on a separate cluster can allow multiple MANTIS systems to share them.

You can use the Split SETPRAY Utility (described in "MANTIS utilities" on page 131) to move users and entities from SETPRAY to another physical cluster. A user exit (CSOPSETP) lets you access the MANTIS directory split across multiple data sets (for further information, see "SETPRAY cluster exit" on page 648).

User exits

The following user exits are available for customizing MANTIS processing:

♦ The Split SETPRAY exit allows processing of a MANTIS cluster that was split into multiple data sets.

♦ The External File exit permits authorization or other checking/ reporting to occur during external file access.

♦ The Printer and Terminal Output exits permit data to be captured or modified for printer or terminal output.

♦ The Program Load exit permits authorization and statistics to be gathered for programs being loaded.

♦ The String Comparison exit permits data in text strings to be compared equal, or collated as desired when the data contains accented or nonRoman characters, or mixed-data that does not collate in EBCDIC (Extended Binary Code Decimal Integer Code) order.

For further information, see "User exits and utility programs" on page 631.

Uppercase/lowercase support

MANTIS screens, prompters, programs, and error messages can be designed with uppercase and lowercase characters. TEXT variables can also contain mixed-case data. Program reserved words, entity names, and user vocabulary words are always kept in uppercase format. Quoted strings are kept as entered (in uppercase/lowercase).

Screen Design supports lowercase with a field specification of UPPERCASE Y/N. Prompter Design also supports uppercase/lowercase. Refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001, for more information.

The Customization Macro controls whether uppercase translation can occur (see the parameter TRCODE= on page 312 for more information).

The Full-Screen Editor supports UPPERCASE:YES (or NO) as part of the Full Screen Edit Profile, and you can set UPPERCASE to Yes or No on the Edit Program Entry Screen in the Program Design Facility (for more information, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013).

The ATTRIBUTE statement accepts uppercase and lowercase designations. UPPERCASE(text-expression) and LOWERCASE(text-expression) are new functions to perform mixed-case translation. To design screens and prompters with lowercase characters, modify SIGN ON or START_FACILITY to execute a statement ATTRIBUTE(TERMINAL)="LOWER" and call the CSOXTCTE (CICS 3.2 and below) or CSOXSETU (CICS 3.3 and above) interface to set UCTRAN to off. Descriptions and passwords can also be saved in lowercase. See "MANTIS utilities" on page 131 for more information. Refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002, for more information about the ATTRIBUTE statement.

A customizable translation table between uppercase and lowercase is available for national languages that do not fit into Roman alphabets. This table also allows specification of undisplayable characters. This translation table is specified by ATTRIBUTE(TERMINAL)="NLS(*xxxx*)" (see "MANTIS customization and maintenance" on page 251 for more information).

The string compare exit (CSOXSTRC) provides systemwide functionality for text comparisons. A case-insensitive sample exit is provided on the installation tape or as part of the MANTIS installation process. For further information, see "String comparison exit" on page 656.

Mixed-data type support

Both EBCDIC (Extended Binary Code Decimal Integer Code (English characters)) and DBCS (Double Byte Character Set) can reside concurrently in a text variable. SO/SI (Shift Out/Shift In) characters are embedded in the variable to indicate whether EBCDIC or DBCS characters are present. A new attribute, SO/SI was added to the Screen Design Facility for text fields (refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001).

A new statement, MIXMODE ON, sets the program to mix data mode to support SO and SI in text variables. The SIZE function has a new parameter "BYT" to return the current byte length (including shift codes) of a text variable. MIXM, MIXD, and MIXT are new functions that can be used to manipulate text variables containing mixed-data. The ATTRIBUTE statement supports MIX and NOMIX options (refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002).

Load module size

All MANTIS facilities are separated so only those required for a given environment need to be included in the MANTIS load module. For example, if a system does not require certain MANTIS facilities or SUPRA RDM support, a MANTIS load module can be created that does not include those functions (see "Modify linkdecks" on page 322 for more information).

String comparison

Strings can be compared character-by-character on actual content regardless of length, or checked first by length, followed by check for content. You can set the default comparison in the Customization Macro (see "Customization Macro" on page 252 for information). A user exit is also available for string comparisons of nonRoman, accented characters, and mixed-data text, such as text and DBCS characters (for further information, see "String comparison exit" on page 656).

Date/time formats

Alternate formats for date, time, and 4-digit year capabilities are allowed. You can specify a mask for date and/or time in your program. The mask allows *MM* for month, *YY* or *YYYY* for year, *DD* for day of the month, and *DDD* for Julian date. For time, *HH*, *MM*, *SS*, and AM (displays AM/PM) are allowed. The format also allows alternate delimiters and substringing of date/time (refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002). You can specify systemwide default masks in the Customization Macro, which are in effect unless another mask is specified in your program (see "Customization Macro" on page 252 for information).

Optimal temporary storage usage

MANTIS usually writes temporary storage records 32K long. Depending on the device type used for temporary storage, use a CISIZE as large as possible (up to 32K) to optimize performance.

For later releases of CICS and the Transaction Server, main temporary storage is acquired above the 16MB line. Eliminating auxiliary temporary storage can improve performance.

Printing options: PRTRANS and PRTDISC

The parameter PRTRANS= in C$OPCUST enables you to specify a *transid* to be used exclusively for printer tasks. You may want to do so for security or accounting purposes.

The parameter PRTDISC disconnects a printer used for a MANTIS print task from CICS when the task is completed (VTAM only).

Paired TRANSIDs

Paired TRANSIDs ensure correct reinitialization following an abend or LOSTTERM. System Administrators are strongly encouraged to set up at least one TRANSID pair. The accuracy of a task reinitialized following an abend or LOSTTERM cannot be guaranteed unless paired TRANSIDs are used.

Although paired TRANSIDs are designed to ensure correct reinitialization in pseudoconversational mode, they have implications for printer and background tasks. These implications are discussed in "Setting up paired TRANSIDs" on page 40, "Running with paired TRANSIDs in pseudoconversational" on page 40, and "Running without paired TRANSIDs (one or none specified)" on page 41.

Setting up paired TRANSIDs

To establish one or more TRANSID pairs, use the TRANSID parameter in the Customization Macro, C$OPCUST. A pair consists of an initial TRANSID and a resume TRANSID:

```
C$OPCUST TRANSID=(ini1,res1,ini2,res2,...)
```

where ini1 is the initial TRANSID in the first pair, res1 is the resume TRANSID in the first pair, and so on.

Running with paired TRANSIDs in pseudoconversational

When a pseudoconversational MANTIS task begins, it is assigned an initial TRANSID by the invoking user or program. After the first MANTIS return, MANTIS updates the initial TRANSID to its corresponding resume TRANSID. Thereafter, the resume TRANSID is used on each return.

When MANTIS begins executing, MANTIS first looks at its TRANSID. If MANTIS sees an initial TRANSID, the program starts execution at the beginning without context (that is, it proceeds to sign on the user) and any stored context is deleted.

If MANTIS sees a resume TRANSID, MANTIS tries to use existing context and begins execution from within the program running at the time of ROLLOUT. If no context is available, MANTIS proceeds to sign on the user.

After an abend or LOSTTERM, if a task is started with an initial TRANSID (the case when you reenter the initial MANTIS TRANSID or the program that transfers control to MANTIS is reinitiated), MANTIS deletes any stored context and starts the task from the beginning. Terminal operators are told to use the initial TRANSID, so they are always ensured of getting an initialized MANTIS.

To use paired TRANSIDs you must:

1. Reassemble C$OPCUST and relink CICS MANTIS with:

    ```
    C$OPCUST TRANSID=(iniX, resX [,...,...])
    ```

2. Define an additional CICS transaction definition entry for TRANSID resX, with the same characteristics as iniX.

Running without paired TRANSIDs (one or none specified)

If no paired TRANSIDs are established and a MANTIS task has a LOSTTERM, MANTIS is not in control and cannot delete its context. In this case, you have no guarantee that existing context is deleted before an operator reinitiates the task. The next user to enter MANTIS from that terminal can begin executing from within the program that was running at the time of the LOSTTERM condition. Paired TRANSIDs guard against this situation.

The following table summarizes how resume TRANSIDs are assigned in MANTIS:

TRANSID in C$OPCUST	If the current TRANSID is a known MANTIS TRANSID*, MANTIS uses the resume TRANSID	If the current TRANSID is a non-MANTIS TRANSID, MANTIS uses the resume TRANSID
None. For example: `C$OPCUST TRANSID=,`	Current TRANSID	MANT
One. For example: `C$OPCUST TRANSID=XXXX`	Current TRANSID	*XXXX*

Pairs have been established, and the current TRANSID is known in C$OPCUST as iniX or resX. For example:
`C$OPCUST`
`  TRANSID=(...,iniX,resX,...)`
	Res*X*	res*X*

Pairs have been established, and the current TRANSID is not in C$OPCUST. For example:
`C$OPCUST`
`  TRANSID=(ini1,res1,...)`
	Current TRANSID	res1

* A 3GL program did not call MANTIS by a LINK or XCTL.

The resume TRANSID is used in the following cases:

♦ At a RETURN in pseudoconversational mode.

♦ At the START of a background task, if no TRANSID is explicitly specified in the PERFORM program/BACK statement.

♦ At the START of a printer task, if a TRANSID has not been explicitly defined with PRTRANS in C$OPCUST, as in the following example:

```
TRANSID=(TRNA, MANS)
```

Limited terminal support in MANTIS

Your installation may be licensed to have only a limited number of terminals concurrently signed on to MANTIS (for more information on MANTIS licensed terminal support, see "Cincom Product Authorization" on page 620). During normal processing, when a user signs on, MANTIS creates a terminal record and increments the signed on terminal count.

A user can exit MANTIS in several ways, some of which process the terminal record and the signed on terminal count differently:

♦ **Normal sign off via MASTER:TERMINATE.** MANTIS decrements the signed on terminal count and deletes the appropriate terminal record.

♦ **Perform XCTL.** MANTIS decrements the signed on terminal count and deletes the appropriate terminal record before releasing control.

♦ **Lost Terminal or other VTAM error condition.** CICS gives control to DFHZNAC, which calls the user-supplied DFHZNEP node error program.
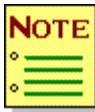
> **NOTE**
> Cincom supplies a sample DFHZNEP node error program, which starts a MANTIS background task that decrements the signed on terminal count, deletes the appropriate terminal record, and cleans up temporary storage. For further information on DFHZNEP, see "Node error programs" on page 671.

♦ **MANTIS does a CICS LINK to an interface program and the subtask abends.** If the subtask has issued its own Handle Condition, MANTIS may not be able to get control so that it can decrement the signed on terminal count and delete the appropriate terminal record. To deal with this situation, do one of the following:

- Modify the interface program to invoke MANTIS' Handle Abend.

- Manually delete the terminal record. See "CSOXDTID" on page 673.

♦ **MANTIS Abends.** MANTIS traps the Abend and then proceeds to delete the appropriate terminal record, decrement the signed on terminal count, and delete temporary storage (if any exists).
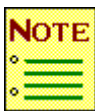
> **NOTE**
> If CMDIAG=Y is specified in CSOPCUST, MANTIS does not issue a HANDLE ABEND and cannot get control back in order to cleanup.

When MANTIS is not able to sign off the terminal

If MANTIS is not able to sign off the terminal, use a utility program called CSOXDTID. Like DFHZNEP, CSOXDTID decrements the signed on terminal count, deletes the appropriate terminal record, and cleans up temporary storage. CSOXDTID can be used in either a MANTIS limited terminal environment or a MANTIS unlimited terminal environment.

To use CSOXTID:

1. Use a CICS monitor program or some other means to determine the ID of the terminal you would like to sign off from MANTIS.

2. Invoke the transaction that runs CSOXDTID, in the process supplying to CSOXDTID the ID of the terminal you would like to sign off.

For information on the CSOXDTID utility program, see "Lost terminal recovery programs" on page 673 .

Unlimited terminal environment

In an unlimited terminal environment (an environment where no number appears in the Authorization Facility's Licensed Terminals field), MANTIS keeps no record of signed on MANTIS terminals. In this sort of environment, DFHZNEP2 calls the CSOXLSTM utility program in order to cleanup temporary storage for the MANTIS task, if temporary storage cleanup is required. For information on the DFHZNEP2 program, see "Node error programs" on page 671. For information on the CSOXLSTM program, see "Lost terminal recovery programs" on page 673.

2

MASTER User's extended functionality

Overview of MASTER User functionality

As the Master User, you have certain facilities and information available to you that other users cannot access. When you sign on as MASTER, a special Facility Selection menu displays.

To select one of the options from the Facility Selection Menu, shown in the following illustration, type the option number in the selection field (__) and press ENTER:

```
FACILMENU01       MANTIS Facility Selection Menu (MASTER)       YYYY:MM:DD
                                                                HH:MM:SS
 Please select one of the menu options below.

___       Run a Program by Name  ......  1 Sign On as Another User  .... 13
          Display a Prompter  ........  2 Set Preferred Terminals  .... 14
          Design a Program  ..........  3 Directory Facility  ......... 15
          Design a Screen  ...........  4 DL/I Access View  ........... 16
          Design a MANTIS File View  ..  5 Shared Pool Facility  ....... 17
          Design a Prompter  .........  6 Query Report Writer  ........ 18
          Design a User Profile  ......  7 Print Facility  ............. 19
          Design an Interface  ........  8 Cross Reference Facility  ... 20
          Design a TOTAL File View  ...  9 Entity Transformers  ........ 21
          Design an External File View 10 Universal Export Facility  .. 22
          Transfer Facility  ..........  11 Search Facility  ............ 23
          MANTIS Utilities  ..........  12




 F1=HELP  F3=EXIT  F12=CANCEL
```

NOTE
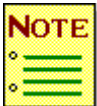
If you are upgrading from a prior release of MANTIS, you do not receive the new Facility Selection screen and program automatically. You must either modify the Facility Selection Menu (FACILITY_XX, where XX represents the first two digits of the current release) and the program FACILITY_XX (that displays this screen) to match your previous definitions, or you must modify your previous screen and program definitions to accommodate the new facilities as reflected in program FACILITY_XX. If you modify the FACILITY_XX entities, you must replace them under the old name (FACILITY).

Leave your current terminal signed on to MASTER, and test the new facility on another terminal. Following this procedure enables you to correct any errors entered and saved at the original terminal. If you do not follow this procedure, you will have to restore your cluster from a backup if a fatal error occurs and your are unable to sign on to MANTIS.

The following screen illustration is an example of what the Facility Selection menu looks like to other users. Notice that the user does not have the same options that you have as the Master User.

```
FACILMENU02              MANTIS Facility Selection Menu          YYYY:MM:DD
                                                                 HH:MM:SS
Please select one of the menu options below.


___      Run a Program by Name  ......  1 Sign On as Another User  .... 11
         Display a Prompter  ........  2 Search Facility  ........... 12
         Design a Program  ..........  3 Query Report Writer  ........ 13
         Design a Screen  ...........  4 Directory Facility  ......... 14
         Design a MANTIS File View ..  5 Transfer Facility  ......... 15
         Design a Prompter  .........  6 Cross Reference Facility  ... 16
         Design an Interface  .......  7 Entity Transformers  ........ 17
         Design a TOTAL File View  ...  8 Universal Export Facility  .. 18
         Design an External File View  9 Print Facility  ............. 19
         DL/I Access View   ..........  10





  F1=HELP  F3=END  F12=CANCEL
```

This chapter describes the options unique to MASTER (excluding the utilities, which are discussed in "MANTIS utilities" beginning on page 131). The following list tells you where to find more information about each of the MASTER facilities:

♦ "User Profile Design" beginning on page 48.

♦ "Set preferred terminals" beginning on page 77.

♦ "Write a facility program" beginning on page 79.

♦ "Alter the sign-on and sign-off procedures" beginning on page 83.

♦ "Printing" beginning on page 90.

User Profile Design

The Design a User Profile Facility allows you to create and save new user profiles (for accessing MANTIS) and to perform maintenance functions on existing user profiles. The maximum number of user names that MANTIS accepts is 238. Each MANTIS user has a profile that contains a valid sign-on name and password. The profile controls the options that each user can access.

To access the User Profile Design Facility, type 7 at the Master Facility menu (see illustration on page 46), and press ENTER. The following screen displays:

```
                    M   A   N   T   I   S

                  User Profile Design Facility

      Name of user  ...................  :                        :

            Insert a new user profile  ............    1
            Inspect an existing user profile  .....    2
            Alter an existing user profile  .......    3
            Directory of users  ..................    4
            Print user profile  ..................    5
            Delete user  .........................    6
            Maintain user PF keys and options  ....    7
            Create extended program profiles  .....    8
            Purge extraneous program profiles  ....    9
            Display user map  ....................   10
            Show user names and codes  ...........   11
            Show valid language codes  ...........   12
            Terminate this facility  ..........  CANCEL


                        :      :
```

NAME OF USER

> **Description**   Specify a name for this user profile.
>
> **Format**   1–16 alphanumeric characters.
>
> After supplying a user name, select an option displayed on the User Profile Design Facility Menu by pressing the corresponding PF key or by typing the option number and pressing ENTER.
>
> The following table describes each option and shows where each option is explained:

Option	Description	For more information
Insert a new user profile	Creates a new user profile.	See "Insert a user profile" on page 51.
Inspect an existing user profile	Displays an existing user profile. You cannot make updates if you select this option.	See "Inspect an existing user profile" on page 62.
Alter an existing user profile	Updates an existing user profile or customizes a default user profile for your installation.	See "Alter an existing user profile" on page 62.
Directory of users	Displays the list of all user profiles, including the user name, password, and a description of the user.	
Print user profile	Prints a hard copy of the specified user profile design. Output is routed to your designated printer.	
Delete user	Deletes an existing user profile.	See "Delete an existing user profile" on page 63.
Maintain user PF keys and options	Changes PF key assignments for a specific user, or sets default values for the Entry and Function Options on specific parameter entry screens.	See "Maintain user Pf keys and options" on page 63.

Option	Description	For more information
Create Extended Program Profiles	Creates the Extended Entity Profile Records (EEPR) that contain program directory information for a specific user. This information builds the user's Program Directory List seen in the Program Design Facility.	See "Create Extended Entity Profile Records" on page 74.
Purge Extraneous Program Profiles	Purges any extraneous Extended Entity Program Profile Records (EEPR) that do not have a matching program in the user's directory.	See "Purge Extraneous Program Profiles" on page 76.
Display user map	Displays the user map.	See "MANTIS utilities" on page 131 for Details.
Show user names and codes	Displays the user names and internal codes.	See "MANTIS utilities" on page 131 for details.
Show valid language codes	Displays the valid language codes that can be specified for a user.	See "MANTIS utilities" on page 131 for details.
Terminate this facility	Returns you to the Facility Selection menu.	

Insert a user profile

To insert a new user profile, type a user name on the User Profile Design Facility menu (shown on page 48), and select the Insert a new user profile option (option 1). The following screen displays:

```
                     M  A  N  T  I  S

                  User Profile Design Facility
      Name and description of User  ..........  NEW_USER
      DEFAULT USER PROFILE PARAMETERS
      Password ...............................  ALIBABA
      Facility Program .......................  MASTER:START_FACILITY
      Status  ................................  ACTIVE
      Statements per Slot  ...................  5000
      Slots before interrupt  ................  20
      Associated Printer  ....................
      Printer Exit name  .....................
      Conversational mode (CICS only)  .......  NO
      Middle East Countries Terminal  ........  NO
      Language Code  .........................  ENU
      Automatic open of TOTAL files  .........  NO
      Decimal Point  .........................  .
      Restrict design of TOTAL views  ........  NO
          "        "    " External file views .  NO
      Log CEF operations  ....................  NO
      CEF statement/source default character  .  @
      Internal User code  ................Dec:     Hex:

    FACU04A:Press ENTER to update, CANCEL key to cancel change and exit
```

MANTIS displays the name you already entered on the User Profile Design Facility menu and the default values for the remaining fields. To modify these default values, see "Alter an existing user profile" on page 62.

NAME OF USER

Description   Displays the user name you entered on the User Profile Design menu.

DESCRIPTION OF USER

Description   *Required*. Describes the user.

Format   1–16 alphanumeric characters.

PASSWORD

Description   *Required.* Indicates a valid password for this user. Type the new password over the default ALIBABA.

Format   1–16 alphanumeric characters.

Considerations

- ♦ Passwords can include spaces, special characters, and trailing blanks.

- ♦ You can assign the same password to several users.

- ♦ For SUPRA Server PDM users, the password specified in this field is the default password used to sign on to RDM.

FACILITY PROGRAM

Description   *Optional.* Indicates the facility program that displays the functions and facilities available to this user.

Default   MASTER:START_FACILITY

Considerations

- ♦ MASTER:START_FACILITY contains all standard MANTIS development facilities. You can code that facility program here if you want the user to have the standard facilities.

- ♦ If standard facilities are not suitable for a particular user, you can write a special facility program and enter the name of that program in this field.

- ♦ If you do not supply a facility program name, the user cannot sign on to MANTIS unless you use the Alternate Sign-on Facility, as described later in this chapter.

STATUS

Description   *Required.* Specifies user access to MANTIS.

Default   ACTIVE

Format   1–16 alphanumeric characters.

Considerations

♦   A status of ACTIVE allows access to MANTIS.

♦   Any status value other than ACTIVE makes the user inaccessible and causes the message STATUS OF USER IS *xxx* to appear when the user attempts to sign on (where *xxx* is the value of the status.) Reestablish access to MANTIS by entering ACTIVE.

STATEMENTS PER SLOT

Description   *Required.* Specifies the number of statements that this user's programs can execute before MANTIS places the program in the back of the execution queue to give execution time to other programs.

Default   5000

Format   0–32767

Considerations

♦   STATEMENTS PER SLOT can be overridden by the SLICE programming statement, which is documented in Chapter 3 of *MANTIS Language, OS/390, VSE/ESA*, P39-5002. However, systemwide tuning is easier if controlled at the user definition rather than in individual programs.

♦   A number of statements that is too low adversely affects the performance of the individual task.

♦   A number of statements that is too high adversely affects the performance of the system in general.

♦   By establishing different values for different users, you control the priority of the users relative to each other.

SLOTS BEFORE INTERRUPT

Description   *Required.* Specifies the number of slots executed before MANTIS issues a warning of a potential program loop to the user's terminal.

Default   20

Format   0–32767

Considerations

♦   SLOTS BEFORE INTERRUPT can be overridden by the SLOT programming statement, which is documented in Chapter 3 of *MANTIS Language, OS/390, VSE/ESA*, P39-5002. However, systemwide tuning is easier if controlled at the user definition rather than in individual programs.

♦   Each slot is the number of statements specified in the STATEMENTS PER SLOT option.

♦   When you press ENTER, the program continues execution.

♦   When SLOT is set to 0, the SLICE value is not checked and no message is issued regarding a potential program loop when running in Batch MANTIS or as a CICS background task. Setting SLOT to 0 allows long running jobs to execute in batch mode. TIME limit can be specified by JCL or shop standards to control looping tasks. SLOT set to 0 when you sign on online is equivalent to SLOT 1.

ASSOCIATED PRINTER

Description   *Optional.* Assigns a default printer ID that is recognized by this user's print requests.

Format   4 or 8 alphanumeric characters.

Considerations

- ♦   For CICS, enter a 4-character terminal identifier for the printer, as defined to CICS.

- ♦   The AUTOCONNECT parameter should be set to YES in the TYPETERM definition associated with the printer definition.

- ♦   If you use the Resource Security Facility under CICS, ensure that the definition pertaining to the printer has the appropriate operator security level coded. This lets MANTIS write to the printer directly. The transaction ID MANTIS uses for this purpose is the same ID used for communication with the screen terminals.

PRINTER EXIT NAME

Description   *Optional.* Assigns a valid 8-character program name for a default printer exit.

Consideration   This field has a length of nine characters. This allows for a slash (/) to precede the 8-character program name to indicate a MANTIS program exit. For more information about using this exit and other print facility details, see "Printer exits" on page 92.

CONVERSATIONAL MODE (CICS ONLY)

Description   *Required*. Indicates if CICS tasks associated with this user run in conversational or pseudoconversational mode.

Default   NO

Options   YES   CICS tasks run in conversational mode.

              NO   CICS tasks run in pseudoconversational mode.

Consideration If you code NO, be sure you have Temporary Storage support available in your CICS system. If there is no auxiliary temporary storage in the system, temporary storage writes will automatically go to main temporary storage. If there is auxiliary storage, use the ROLLMEM customization option to control where MANTIS writes to temporary storage. (See "Customization Macro quick reference table" on page 254 for more information on the ROLLMEM customization option.)

MIDDLE EAST COUNTRIES TERMINAL

Description   *Required*. Specifies whether numeric fields display with numerals from right to left (YES) or from left to right (NO).

Options   NO

              YES

Consideration Generally, leave the default value in this field.

LANGUAGE CODE

Description   *Required*. Indicates user language code.

Default   Specified in Customization Macro

Options   See the User Profile Design Facility menu shown on page 48.

AUTOMATIC OPEN OF TOTAL FILES

Description   *Optional.* Indicates whether MANTIS opens the required TOTAL DBMS or SUPRA PDM files whenever you execute the TOTAL statement in your program.

Default   NO

Options   NO

YES

Consideration If you code NO, you can save considerable overhead, provided that you open all relevant TOTAL DBMS or SUPRA PDM files when you bring up your TP system.

DECIMAL POINT

Description   *Optional.* Indicates if the comma (,) is the preferred decimal point.

Default   Full stop (.)

Options   Comma (,) or full stop (.)

Considerations

♦   MANTIS changes any character entered other than a full stop (.), or a comma (,), to a full stop (.).

♦   If you code the comma for the decimal point, the numeric data displayed by the CONVERSE and SHOW statements shows the comma indicating the position of the decimal point.

♦   The numeric constants in MANTIS programs still use the full stop (.) as the decimal point indicator.

RESTRICT DESIGN OF TOTAL VIEWS

Description   *Required.* Restricts the TOTAL DBMS or SUPRA PDM files for which the user can design file views.

Default   NO

Options   NO   Do not impose restriction.

YES   Impose restriction.

Considerations

♦ After you enter all the fields on the current screens and press ENTER, a new screen displays.

♦ You can code up to 100 allowed TOTAL DBMS or SUPRA PDM files on the new screen.

♦ This design restriction can be helpful if you have confidential online files for which you want to restrict access.

RESTRICT DESIGN OF EXTERNAL FILE VIEWS

Description   *Required.* Restricts the external files for which the user can design file views.

Default   NO

Options   NO

YES

Considerations

♦ After you enter all the fields on the current screen and press ENTER, a new screen displays.

♦ You can code up to 100 allowed external files on the new screen.

♦ This design restriction can be helpful if you have confidential online files for which you want to restrict access.

LOG CEF OPERATIONS

Description	*Required.* Specifies whether program activity is recorded on the Entity Log (an external file that contains records of program activity) and displayed on the user's Audit Trail List.
Default	NO
Options	YES Log a record of program activity. When the user issues an action (EDIT, COPY, COMPOSE, DECOMPOSE), the action, the program name on which that action is performed, and program information (date, time, type, library, and status) is written to the Entity Log and displayed on the Audit Trail List.
	NO Do not log program activity on the Entity Log or show it on the Audit Trail List.

CEF STATEMENT/SOURCE DEFAULT CHARACTER

Description   *Optional.* Indicates which special character is used in the Component Engineering Facility (CEF) as a suffix for CEF source programs, such as CUST_BROWSE@, and nominate SOURCE and COMPONENT statements in an executable program, such as @SOURCE and @COMPONENT.

Default   At sign (@)

Considerations

♦   You cannot use the following characters as the CEF statement/source character:

A–Z (entire alphabet, uppercase and lowercase)

| (vertical bar)

*   (asterisk)

:   (colon)

¬   (not sign)

/   (slash)

?   (question mark)

=   (equal sign)

"   (double quotes)

'   (single quote)

blank

♦   Set the default character once for all users. If a user creates CEF programs using the at sign (@), and you change the default character for that user, CEF actions (COMPOSE, DECOMPOSE, EDIT) no longer work correctly with the user's CEF programs that contain the at sign. To change the default character for all users at one time, see "Set User Options - All Users" on page 139.

♦   For more information on source program naming conventions and the COMPONENT and REPLACE statements, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

INTERNAL USER CODE

Description   *Optional.* Specifies the internal user code, in decimal, for the new user.

Default   Next available user code

Options   Decimal number 17–255 (0–16 are reserved CONTROL and MASTER users)

Considerations

♦ The internal user code is the main key to the MANTIS cluster. If you do not specify a key, MANTIS assigns the next available one.

♦ If the user code you specified is already assigned, you receive an error message and the Display Usermap screen displays. The Display Usermap gives you a quick glance at the user codes already used. Choose a user code not in use, press ENTER or CANCEL to return to the User Profile Design Facility, and enter the unassigned user code. See "Display user map" on page 76 for more information.

♦ MANTIS also returns the internal user code in hexadecimal format for your use when splitting the SETPRAY cluster. See "Split SETPRAY Utility," on page 196, "Splitting the cluster" on page 200, "Split SETPRAY Utility report" on page 204, and "Split SETPRAY Utility in batch" on page 206 for information about splitting the SETPRAY cluster, and "SETPRAY cluster exit" on page 648 for information about the user exit to access a split SETPRAY cluster.

After supplying the fields on the User Profile Design Facility screen, press ENTER to store the user profile. If you specified YES to restrict design of TOTAL views and/or External File views, the screens where you can code the allowed file names display. When you finish coding these file names, press ENTER to save them, and then press the CANCEL key to return to the User Profile Design Facility menu (illustrated on page 48.)

Inspect an existing user profile

To view the profile of an existing user, type the user name (stored in the Directory of User Profiles) and select option 2. The screen shows the same information described in "Insert a user profile" on page 51. You cannot alter the profile when you inspect it. If you have defined Allowed TOTAL Files and Allowed External Files, the screens containing the allowed names display following the User Profile. Press ENTER to return to the User Profile Design Facility menu (illustrated on page 48).

Alter an existing user profile

To alter the user profile fields for a user, type the user name and select the Alter an existing user profile option (option 3). You cannot alter the user name. You can use this facility to update user profiles to allow access to new options, such as TOTAL file views. The screen shows the same information as described in "Insert a user profile" on page 51. To store the changes and return to the User Profile Design Facility menu (illustrated on page 48), make the desired changes and press ENTER.

NOTE
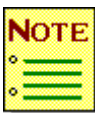
Changes made to the user profile, such as setting Log CEF Operations to yes, do not take effect until the next time that user signs on.

Cincom provides a special user named PROFILE_DEFAULTS. The profile values for this user are the same default values you see when defining a new user. If you alter any values on the PROFILE_DEFAULTS user, your changes appear automatically whenever you display the User Profile Design Facility screen (illustrated on page 48) to define a new user.

Delete an existing user profile

To delete the profile for an existing user, type the user name and select option 6. MANTIS asks you to confirm your deletion by pressing PF6. When you confirm the deletion, the user profile, all entities, and file contents associated with that user are deleted.

Maintain user PF keys and options

The MANTIS Program Design Facility is installed with systemwide default parameters for all users. These default parameters reside in the user called PROFILE_DEFAULTS, which contains the generic parameters from which new users can be created and customized. These parameters are the Extended Dialog Profile Records (EDPR) that define default PF keys and options for each dialog of the system.

You can customize the Program Design Facility by modifying the Extended Dialog Profile Records (EDPR). You can use the User Profile Design Facility to modify the values of PF keys, Entry Options, and Function Options for any EDPR under the special user PROFILE_DEFAULTS. You have systemwide control over the PF keys and options for all users. For a list of EDPR and their description and location in the Program Design Facility and Component Engineering Facility (CEF), see "List of Extended Dialog Profile Records (EDPR)" on page 677.

After you create a new user with the PROFILE_DEFAULTS parameters, you can customize the default parameters for the user (see "Insert a user profile" on page 51 for information about creating a new user). To customize parameters, copy the EDPR from PROFILE_DEFAULTS to the individual user, and then modify PF keys, Entry Options, and Function Options individually for the user.

In addition to supplying a complete EDPR set, Cincom supplies another complete set of records (identical to those on the user PROFILE_DEFAULTS) under the reserved user name CONTROL. As the Master User, you can copy these control records to another user where they can be changed, but you cannot change the records on the CONTROL user. The control records ensure that you can restore any user (including PROFILE_DEFAULTS) to the original Cincom-supplied values.

You can also restrict certain actions to specific users. Copying the PROFILE_DEFAULTS EDPR for an action to the user(s) and deleting the EDPR from PROFILE_DEFAULTS prevents other users from executing that action. They will receive a message indicating they are not authorized for the action.

Copy Extended Dialog Profile Records (EDPR)

After you create the new user, type the user's name on the User Profile Design Facility menu (illustrated on page 48), and select the option MAINTAIN USER PF KEYS AND OPTIONS. The Dialog Directory List for the new user displays as in the following screen illustration:

```
EDPRLIST01     Dialog Directory List (ACCT)              YYYY/MM/DD HH:MM:SS
===>
User  .  .  .  ACCT
Action    Dialog Id                       Status    Description
--------- ------------------------------  --------- ------------------------




















FACF02: Not found
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

To modify PF keys or options for an individual user, copy an EDPR from the PROFILE_DEFAULTS user to the new user as follows:

1. Issue the Copy action from the Dialog Directory List. The COPY Dialog Profile Entry screen (see the following screen illustration) displays.

2. Type PROFILE_DEFAULTS in the From Library field, type the EDPR name in the From Name field, and type the user's name in the To Library field.

3. Issue EXECUTE.

```
EDPRENT201      COPY Dialog Profile Entry               YYYY/MM/DD HH:MM:SS
 ===>
 From
   Library . . .  PROFILE_DEFAULTS
   Name  . . . .  ADOP_PRGM_CEFCHECK              Password :            :
   Description .

 To
   Library . . .  ACCT
   Name  . . . .                                 Password :            :
   Description .

 Entry Options           Function Options              Process Statistics

  Immediate? . . . . Y   Replace if found? . . N      Processed  . .
  Confirmation?  . . N                                 Replaced . . .
                                                       Skipped  . . .
                                                       Errors . . . .



FAC000: Ready
 F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F5=REFRESH F6=EXECUTE F7=CONFIRM ...
```

In addition to copying EDPR in the User Profile Design Facility, you can copy EDPR when working in the Program Design Facility. Simply enter LIST EDPR."username:" on the command line of the Program Design Facility menu, and the list of EDPR for that user displays. Enter COPY on the command line and the COPY Dialog Profile Entry displays as in the preceding screen illustration.

For information about the Program Design Facility and the LIST command, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

Change PF key and option defaults

You can change the systemwide defaults for PF keys and options for all users by changing the default values for the PROFILE_DEFAULTS user. You can also change the PF keys and default options for an individual user. Remember to copy the appropriate EDPR from PROFILE_DEFAULTS (as explained in "Copy Extended Dialog Profile Records (EDPR)" on page 64) before you can customize PF keys and options for an individual user.

To customize a user's PF keys and options, enter the user's name on the User Profile Design Facility menu (illustrated on page 48) and select the option MAINTAIN USER PF KEYS AND OPTIONS. The Dialog Directory List displays with EDPRs, as in the following screen illustration:

```
EDPRLIST01      Dialog Directory List (ACCT)              YYYY/MM/DD HH:MM:SS
===>
User. . .  ACCT
Action     Dialog Id                         Status    Description
---------  --------------------------------  --------  ----------------------
           ADOP_PRGM_AUDIT                    ACTIVE    Audit Trail List
           ADOP_PRGM_BILL                     ACTIVE    Bill of Materials List
           ADOP_PRGM_BIND                     ACTIVE    BIND Program Entry
           ADOP_PRGM_BROWSE                   ACTIVE    BROWSE Program Profile
           ADOP_PRGM_CEFCHECK                 ACTIVE    CEFCHECK Program Entry
           ADOP_PRGM_COMPOSE                  ACTIVE    COMPOSE Program Entry
           ADOP_PRGM_DECOMPOSE                ACTIVE    DECOMPOSE Program Entry
           ADOP_PRGM_LIST                     ACTIVE    Program Directory List
           ADOP_PRGM_MENU                     ACTIVE    Program Design Facility
           ADOP_PRGM_PROFILE                  ACTIVE    PROFILE Program Entry




FACF09: End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

For a list of EDPR and their description and location in the Program Design Facility and Component Engineering Facility (CEF), see "List of Extended Dialog Profile Records (EDPR)" on page 677.

Fields on the Dialog Directory List

The Dialog Directory List works like the other lists in the Program Design Facility and CEF. For more information about lists and how to use them, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

The command line (===>) is the area where you can enter commands for the Dialog Directory List. To display valid commands, issue PROMPT. The Prompt List has two commands to your Master User sign-on.

Command	Description
KEYS	Allows you to customize PF key assignments for a specific EDPR.
OPTN	Lets you determine default values (for parameter entry screen Entry and Function Options) for a specific EDPR.

The action field contains nine underscores where you can enter commands for a specific EDPR shown on the list. Each EDPR name is listed in alphabetic order under the Dialog Id heading.

The Status field displays the value ACTIVE for each EDPR and MANTIS temporarily displays UPDATED after a change is made.

Description displays the purpose of the EDPR. The description can help you determine which EDPR controls a specific point in the user's dialog within the Program Design Facility and Component Engineering Facility (CEF). If the description field extends beyond the width of your screen, issue RIGHT. To scroll to the original position, issue LEFT.

To change the PF key assignments displayed on a specific screen for an individual user, enter the KEYS command in the Action field of the Dialog Directory List (illustrated on page 66) for the EDPR that controls the screen.

For example, in the following screen illustration the KEYS command was typed for the EDPR ADOP_PRGM_CEFCHECK, which controls the CEFCHECK Program Entry screen:

```
EDPRLIST01     Dialog Directory List (ACCT)              YYYY/MM/DD HH:MM:SS
===>
User. . .  ACCT
Action     Dialog Id                     Status    Description
--------- ------------------------------ --------- -----------------------
           ADOP_PRGM_AUDIT               ACTIVE    Audit Trail List
           ADOP_PRGM_BILL                ACTIVE    Bill of Materials List
           ADOP_PRGM_BIND                ACTIVE    BIND Program Entry
           ADOP_PRGM_BROWSE              ACTIVE    BROWSE Program Profile
KEYS_____  ADOP_PRGM_CEFCHECK            ACTIVE    CEFCHECK Program Entry
           ADOP_PRGM_COMPOSE             ACTIVE    COMPOSE Program Entry
           ADOP_PRGM_DECOMPOSE           ACTIVE    DECOMPOSE Program Entry
           ADOP_PRGM_LIST                ACTIVE    Program Directory List
           ADOP_PRGM_MENU                ACTIVE    Program Design Facility
           ADOP_PRGM_PROFILE             ACTIVE    PROFILE Program Entry




FACF09: End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

When you press ENTER, MANTIS responds with the Update Dialog Profile PF Keys screen, as the following screen illustration shows:

```
EDPRKEYS01          Update Dialog Profile PF Keys          YYYY/MM/DD HH:MM:SS
===>
Base Information
  Library . . .     ACCT
  Name. . . . .     ADOP_PRGM_CEFCHECK
  Status. . . .     ACTIVE
  Description .     CEFCHECK Program Entry
PF Keys ( 1-12 )                        PF Keys ( 13-24 )
------------------------------------    -- ------------------------------
 1 HELP                                 13 HELP KEYS
 2 EXHELP                               14
 3 EXIT                                 15 MENU
 4 PROMPT                               16
 5 REFRESH                              17
 6 EXECUTE                              18
 7 CONFIRM                              19
 8 SKIP                                 20
 9 RETRIEVE                             21 COMMAND
10                                      22
11                                      23
12 CANCEL                               24

FACF10: Ok to update
F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F6=EXECUTE F9=RETRIEVE F12=CANCEL
```

Base Information displays the EDPR for which you are altering PF keys. You cannot change the user's library, EDPR Name, Status of the EDPR, and description.

The screen is divided into two columns, each containing a PF key number and action name. You can alter action names, but you cannot alter numbers.

To alter PF keys, simply type over the displayed value with a new value. To delete a value, erase it with the EOF key or space bar. You can add a value to a blank key number.

The PF key must be assigned to an action that is valid for the specific screen. To view the valid actions for a screen, issue PROMPT from that screen. For example, the EDIT command is not valid on the several parameter entry screens used in the Program Design Facility and CEF. Therefore, if you add 3 EDIT on the Update Dialog Profile PF Keys screen (see the previous screen illustration), and the user presses F3=EDIT from the CEFCHECK Program Entry screen, the message "FACC11: Unknown command" displays. In addition, MANTIS cannot recognize an action as valid if it is misspelled.

When you have altered PF keys for a specific action, do one of the following:

♦ To update your changes and keep the Update Dialog Profile PF Keys screen displayed issue UPDATE.

♦ To update your changes and return to the Dialog Directory List, issue EXECUTE.

MANTIS displays the message "FACF00:Update successful".

NOTE
The PF keys you alter appear permanently on the user's screen and remain in effect until you change them again. However, the user can change PF keys temporarily (for individual sign-on only) by issuing KEYSUPDATE when in the Program Design Facility. KEYSUPDATE displays the KEYSTEMP screen where the user can change PF keys for the current action only. PF key assignments made by the user remain in effect for the duration of the current action only. When the user exits from the action, PF keys are restored to the values you established.

To change the Entry and Function Option defaults as they appear on the parameter entry screens for an individual user, enter the OPTN command in the Action field of the Dialog Directory List for the EDPR that controls a particular screen. Entry and Function Options let the user control how a specific action is executed. Generally, the same Entry Options appear on most parameter entry screens, while Function Options vary on parameter entry screens depending on the action.

For example, in the following screen illustration, the OPTN command was typed for the EDPR ADOP_PRGM_CEFCHECK, which controls the CEFCHECK Program Entry screen:

```
EDPRLIST01     Dialog Directory List (ACCT)              YYYY/MM/DD HH:MM:SS
===>
User. . .  ACCT
Action      Dialog Id                       Status    Description
---------  ------------------------------  ---------  -----------------------
_____    ADOP_PRGM_AUDIT                 ACTIVE     Audit Trail List
_____    ADOP_PRGM_BILL                  ACTIVE     Bill of Materials List
_____    ADOP_PRGM_BIND                  ACTIVE     BIND Program Entry
_____    ADOP_PRGM_BROWSE                ACTIVE     BROWSE Program Profile
OPTN____    ADOP_PRGM_CEFCHECK              ACTIVE     CEFCHECK Program Entry
_____    ADOP_PRGM_COMPOSE               ACTIVE     COMPOSE Program Entry
_____    ADOP_PRGM_DECOMPOSE             ACTIVE     DECOMPOSE Program Entry
_____    ADOP_PRGM_LIST                  ACTIVE     Program Directory List
_____    ADOP_PRGM_MENU                  ACTIVE     Program Design Facility
_____    ADOP_PRGM_PROFILE               ACTIVE     PROFILE Program Entry




FACF09: End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FWD  F9=RETRIEVE ...
```

When you press ENTER, MANTIS responds with the Update Dialog Profile Options screen, as the following screen illustration shows:

```
EDPROPTN01        Update Dialog Profile Options           YYYY/MM/DD HH:MM:SS
 ===>
 Base Information
   Library . . .     ACCT
   Name. . . . .     ADOP_PRGM_CEFCHECK
   Status. . . .     ACTIVE
   Description .     CEFCHECK Program Entry

 Entry Options                   Function Options
   Immediate?  . . . . .   Y       Create trigger?  . .   Y
   Confirmation? . . . .   N       Display detail?  . .   Y
   Addendum? . . . . . .   N       Display summary? . .   Y





 FACF10: Ok to update
 F1=HELP F2=EXHELP F3=EXIT F4=PROMPT F6=EXECUTE F9=RETRIEVE F12=CANCEL ...
```

The Update Dialog Profile Options screen lists the defaults for Entry and Function Options that the user sees on parameter entry screens when using the MANTIS Program Design Facility or the Component Engineering Facility (CEF). When the Program Design Facility is installed, Entry and Function Option default values of Yes and No are provided for each action. As the Master User, you can alter default values for your operating environment and user preference.

The Update Dialog Profile Options screen (shown in the preceding screen illustration) shows the default values for Options in the CEF Check action, identified by the EDPR in the Name field (ADOP_PRGM_CEFCHECK) and the screen title in the Description field (CEFCHECK Program Entry). This screen lets you customize an individual user's Entry and Function Options for a specific action.

The default values on the Update Dialog Profile PF Keys screen (illustrated on page 69) are the same values the user sees when working with CEF and displaying the CEFCHECK Program Entry screen.

Base Information displays the EDPR for which you are altering Options. The user's library, EDPR Name, Status, and description cannot be changed. The screen is divided into two columns for the Entry and Function Options.

To alter the default values of options, simply type over the displayed value. The choices for most Entry and Function Option settings are either Y or N. For example, if you type N for the Function Option "Display Detail?", the user does not receive the CEFCHECK Detail Report when the CEF Check action is issued.

For the Compose action, you can enter D (default) for the Function Options "Component stmt?" and "Force compose?". D for either of these two options accepts the values as coded in the CSIOPTNS statement of the user's Component-Engineered source program. The values Y or N override D.

For more information about Entry options, Function Options, and using D for the Compose action, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

When you have altered options for a specific action, do one of the following:

♦ To update your changes and keep the Update Dialog Profile Options screen displayed, enter the UPDATE command.

♦ To update your changes and return to the Dialog Directory List, enter the EXECUTE command.

If you press ENTER instead of using the UPDATE or EXECUTE commands, the message FACF10: OK TO UPDATE displays on the Update Dialog Profile Options as a reminder that ENTER alone does not do the updating.

Entry and Function Options you alter appear on the user's screen until you change them again. However, the user can change the values temporarily (for individual sign-on only) directly on the parameter entry screen when signed on to the Program Design Facility or CEF. Any changes to options made by the user remain in effect for the duration of the current action only. When the user exits from the action, the Function and Entry Options are restored to the permanent values you established.

Changing PF keys for the Full-Screen Editor

You perform PF key maintenance for the Full-Screen Editor on the EDPR FSE_EDIT. The commands assigned to PF keys on this record are what users see when they type in PROFILE while in the Full-Screen Editor. Any changes that they make are temporary and exist for that session of the Full-Screen Editor only. When they reenter the Full-Screen Editor, the values are set as you assigned them on the FSE_EDIT EDPR.

You perform option maintenance for the Full-Screen Editor on ADOP_PRGM_EDIT. These options (Scroll Amount, Nulls On, etc.) are what users see when they enter PROFILE while in the Full-Screen Editor. Changes you make are permanent; changes users make while in the Full-Screen Editor are temporary.

Disallowing program design functions

You can also restrict certain actions to specific users. Copying the PROFILE_DEFAULTS EDPR for an action to the user(s) and deleting the EDPR from PROFILE_DEFAULTS prevents other users from executing that action. They will receive a message indicating they are not authorized for the action.

Create Extended Entity Profile Records

The Create Extended Program Profile option allows you to create the Extended Entity Profile Records (EEPR) for a user. These records contain the program directory information used by the Program Design Facility, such as library, program name, description, status, type, version, date and time of the last change, and date and time when any action was executed on the program.

An EEPR is automatically generated when the user creates a MANTIS program with the MANTIS Design Facilities (SAVE, COPY). An EEPR is also created with a TRANSFER-IN (even if the program came from a cluster not supporting EEPR). Therefore, using the Create Extended Program Profile option is not normally required.

As the Master User, when you select the Create Extended Program Profile option, the MANTIS Program Directory is automatically read and an EEPR is generated if one does not exist for a program. This option is only required when:

♦ Reinstalling MANTIS at an existing MANTIS site. Reinstallation at a site prior to release 4.3 (MANTIS code release) requires you to use the Create Extended Program Profile option to build the EEPR for programs that already exist in the directory. You know when you need to select the Create Extended Program Profile option because a user's Program Directory List displays partially or is empty. MANTIS builds the user's Program Directory List from the EEPR, not from the MANTIS Directory.

♦ Creating a program using the MANTIS Line Editor. If a program is created and saved using the MANTIS Line Editor, an EEPR is not created. Even though the program exists on the cluster, it does not appear on the Program Directory List. Selecting the option Create Extended Program Profile builds the missing EEPR without affecting existing EEPR.

NOTE
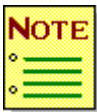
Warning: Do not use the Line Editor. In addition to not creating an EEPR, replacing or purging a program with the Line Editor does not update an existing EEPR, thereby destroying program audit information. If this happens, program integrity can be corrected by using the "Purge Extraneous Program Profiles" on page 76 .

NOTE
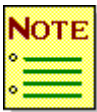
The Master User can create EEPR for a user only when no one is currently signed-on for that user. Temporary records are sometimes created while a user is programming, and an EEPR could be created for one of these temporary programs.

The Master User can create EEPR for any user, including Cincom protected CONTROL users. This is because candidates for the Shared Pool Facility are selected from a list built from the EEPR file.

To create EEPR for an individual user, type the user's name on the User Profile Design Facility menu and select the Create Extended Program Profile option. MANTIS displays the message USE PF8 TO CONFIRM CREATE. Press PF8. MANTIS then displays the message PROCESSED *x* PROGRAMS, INSERTED *y* PROFILES (where *x* shows the number of programs in the user's library, and *y* shows the number of new EEPR that were inserted for these programs).

To create EEPR in a single operation for your entire user base, see "Add EEPR Records - All Users" on page 138.

Purge Extraneous Program Profiles

The purge option lets you delete any extra Extended Entity Profile Records (EEPR) for which no matching program exists in the user's directory. Generally, you only need to use the Purge Extraneous Program Profiles option when a user has purged a program using the MANTIS Line Editor. When this happens, the user sees a program name displayed on the Program Directory List. When using the Full-Screen Editor to select the program from the list, a blank screen displays.

NOTE

Warning: Do not use the Line Editor. Replacing or purging a program using the Line Editor does not update the EEPR, thereby losing important profile audit information about the program and destroying program historical information.

To purge an EEPR for an individual user, type the user's name on the User Profile Design Facility and select the Purge Extraneous Program Profiles option. MANTIS displays the message USE PF9 TO CONFIRM CLEANUP. Press PF9. MANTIS then displays the message PROCESSED *x* PROGRAM PROFILES, DELETED *y* PROFILES (where *x* shows the number of programs in the user's library, and *y* shows the number of extraneous EEPR that were removed).

Display user map

Display User Map shows a map with the assigned USER codes in your cluster. You can also select Display User Map from the MANTIS Utilities Menu. See "Display User Map" on page 171.

Show user names and codes

Show User Names and Codes shows the assigned user codes in your cluster, including MANTIS protected users. You can also select Display User Codes from the MANTIS Utilities Menu. The status of the user is also provided. See "Display User Codes" on page 172.

Set preferred terminals

If your installation has ordered MANTIS with a terminal limit, only the authorized number of terminals can be signed on at one time. You can find out what that number is by examining the security record for the CPU that is currently running. (See "Authorize MANTIS/Options Utility" on page 611 for more information on the security record.)

Once the maximum number of allowed terminals is signed on, no other terminals can sign on to MANTIS until someone signs off. If you have one or more terminals which have a fixed LUID and therefore always access CICS using the same terminal identifier, you can designate them as preferred terminals. These preferred terminals are given sign-on preference over other terminals and are always allowed to sign on. However, they do not sign-off a non-preferred terminal that is already signed on.

When you select the Set Preferred Terminals option from the MANTIS Facility Selection Menu (illustrated in "Overview of MASTER User functionality" on page 45), the following screen displays:

```
                          MANTIS
                     PREFERRED TERMINALS

      i004        i005        i006
```

To specify a preferred terminal, type the terminal number in the tab positions on the screen (as shown with the examples i004, i005, and i006), and press ENTER. In CICS environments, enter a 4-character terminal identifier name.

You can type up to 100 preferred terminals on this screen. After adding or changing terminal numbers, press ENTER. To return to the MANTIS Facility Selection Menu (illustrated in "Overview of MASTER User functionality" on page 45), press the CANCEL key.

Write a facility program

As Master User, you can allocate MANTIS facilities (such as, screen design, file design, or customized routines) to each user. If you decide to make all MANTIS standard facilities available to a user, simply assign the program named:

```
MASTER:START_FACILITY
```

to the Facility Program field on the Create a User Profile Design Facility screen (illustrated on page).

If you do not want to make the standard facility programs available for a particular user, you can write a special facility program for that user. Each user's facility program name is specified in the user's profile.

A facility program is a standard MANTIS program that is referred to as a facility program only to indicate the role it plays in the MANTIS system. A facility program in a Dynamic Transaction Backout (DTB) system must have a COMMIT statement at the beginning of the program to force termination of a Logical Unit of Work (LUW).

For a description of the COMMIT statement, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

You can use any program as a facility program. The following code sample shows an example program that presents a menu to choose between order or customer inquiry. To display orders, press PF1. To display customers, press PF2. To end MANTIS, press the CANCEL key.

```
 10 ENTRY USER_MENU
 20 .SCREEN MENU("MENU_SCREEN")
 30 .CONVERSE MENU
 40 .WHILE MENU<>"CANCEL"
 50 ..WHEN MENU="PF1"
 60 ...CHAIN "ORDERS_PROGRAM"
 70 ..WHEN MENU="PF2"
 80 ...CHAIN "CUSTOMERS_PROGRAM"
 90 ..END
100 ..CONVERSE MENU
110 .END
120 .CHAIN "MASTER:TERMINATE"
130 EXIT
```

MANTIS provides several standard facility programs (see the following table). To invoke a facility, use the CHAIN statement (shown in the previous example) in the format:

```
CHAIN "identity"
```

where "identity" is one of the programs supplied with MANTIS.

Facility to be invoked	Identity
Run a program by name	CONTROL:RUN_A_PROGRAM
Display a prompter	CONTROL:DISPLAY
Design a program	CONTROL:PROGRAM
Design a screen	CONTROL:ASP
Design a MANTIS file view	CONTROL:SETS
Design a prompter	CONTROL:PROMPTER
Design an interface	CONTROL:INTERFACE
Design a TOTAL file view	CONTROL:TOTAL_VIEW
Design an external view	CONTROL:ACCESS
DL/I access view	CONTROL:DLI_FACILITY
Sign on as another user	CONTROL:SIGN_ON
Query report writer	CONTROL:RUN_SPECTRA
Directory facility	CONTROL:DIRMMENU
Transfer facility	CONTROL:TRANSFER
Cross reference facility	CSI_XREF:MENU
Entity transformers	CASE:CASE_SELECT
Universal export facility	CONTROL:EXP_MAIN_CCB
MANTIS print facility (online)	CONTROL:MPFMMENU
MANTIS print facility (batch)	CONTROL:MPFREADR
MANTIS line editor *	CONTROL:LINE_EDIT
Old interface facility	CONTROL:INTERFACE_37
Single-level transfer facility	CONTROL:TRANSFER_ONE_LVL
Terminate session	MASTER:TERMINATE

NOTE

Warning: When creating or modifying a program in the Program Design Facility, use the Full-Screen Editor (instead of the Line Editor). The Line Editor, shown in the preceding table as CONTROL:LINE_EDIT, is available and can be added as a facility when using the Program Design Facility. However, if you use the Line Editor to create, change, or delete a program, program profile integrity is destroyed.

The Program Design Facility maintains a separate, external file for Extended Entity Profile Records (EEPR) that includes information about library, program name, description, status, type, version, date and time of last program change, and date and time when the last action executed on the program.

Because the Line Editor neither creates nor modifies an EEPR, a program created using the Line Editor would not be visible to the Program Design Facility and would, therefore, not appear on the user's Program Directory List. In addition, the dates and times of program changes needed by the Program Design Facility would not be updated.

For a list of specific conditions when the Line Editor has an impact on program integrity, see "Line Editor functions" on page 681.

The following code sample shows a sample portion of a facility program
named FACILITY_SELECTION:

```
10 ENTRY FACILITY_SELECTION:| MANTIS 5.4
20 .OUTPUT SCREEN
30 .COMMIT
40 .SCREEN MAP("FACILITY")
50 .IF USER="MASTER"
60 ..UNTIL MAP="CANCEL"
70 ...CONVERSE MAP
80 ...WHEN MAP="PF1" OR OPTION=1
90 ....CHAIN"CONTROL:RUN_A_PROGRAM"
100    .
110    .
120    .
```

Entering MASTER:START_FACILITY in the user's FACILITY MENU field
makes all facility programs available to that user. By using the standard
MANTIS facility programs and creating your own customized routines,
you can fully customize a user's facility selections.

Alter the sign-on and sign-off procedures

As Master User, you can customize the sign-on and termination procedures for MANTIS by modifying the screen MASTER:SIGN_ON and the programs MASTER:SIGN_ON and MASTER:TERMINATE. After MANTIS initialization, the first program that is executed is MASTER:SIGN_ON, which can be customized to bypass or modify the standard sign-on screen procedure.

NOTE

Cincom recommends that you sign on to two terminals when making changes to the sign-on procedure. Use one terminal to make changes and use the second terminal to test your changes. Doing so lets you make corrections and test the changes again without being locked out of MANTIS if an error occurs in your modified program.

You can CHAIN to CONTROL:SIGN_ON passing a valid user ID and password. This bypasses the standard MANTIS sign-on screen and transfers control directly to the user's facility. CONTROL:SIGN_ON can receive parameters for user ID, password, facility program name, and parameter data to be passed to the facility program as part of the CHAIN.

The CONTROL:SIGN_ON program checks for a valid user ID and password before control transfers to the facility program. If no user ID and password are passed to CONTROL:SIGN_ON, the MANTIS sign-on screen (MASTER:SIGN_ON) displays. The user facility program is the one specified in the user's profile unless an initial facility program is supplied.

Control is retained within the facility program until you exit. Control is then passed to MASTER:TERMINATE via a MANTIS CHAIN. MASTER:TERMINATE enables you to expand or modify the way a MANTIS session ends. MASTER:TERMINATE must end with a CHAIN to CONTROL:TERMINATE.

The following figure illustrates the MANTIS flow:
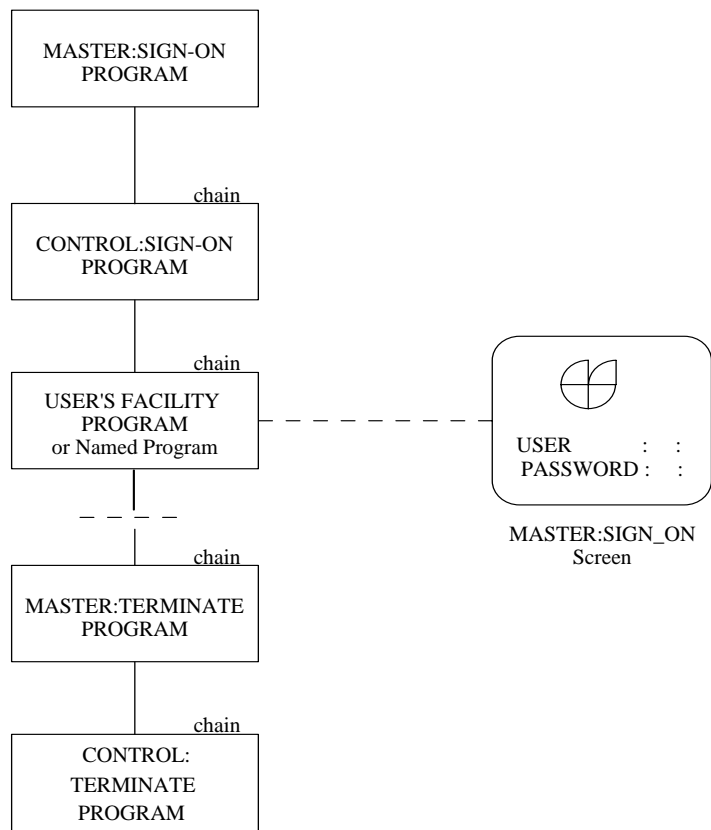
Customize the sign-on screen

Use the MANTIS Screen Design Facility to fetch, update, and replace the MASTER:SIGN_ON screen. For information on using the MANTIS Screen Design Facility, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001. Back up the VSAM file before you alter this screen. The following lists the fields on the signed-on screen.

NOTE
Do not change the NAME, CLEARANCE, or NOTE fields. These fields must keep their original names, sizes, and attributes. You can move the fields to different locations on the screen, but do not change these fields. If you do so, users cannot sign on.

Field name	Format	Comments
NAME	16 characters	Text; don't alter
CLEARANCE	16 characters	Text; don't alter
NOTE	76 characters	Text; protected
SIGN_ON_DATE	10 characters	Designates current date; optional
SIGN_ON_TIME	8 characters	Designates current time; optional
SIGN_ON_RELEASE	79 characters	Current MANTIS release level; optional

When modifying the new sign-on screen, leave one terminal signed-on to MASTER. Test your changes thoroughly at another terminal. The terminal signed-on to MASTER allows you to back out changes if an error occurs.

Modify sign-on program

As the Master User, you can bypass the MANTIS sign-on screen completely. To bypass it, modify the program MASTER:SIGN_ON to pass a valid user name and password to the main sign-on program, CONTROL:SIGN_ON. If you bypass the MANTIS sign-on screen, the user's Facility Selection, or named program, displays as the first screen.

The program MASTER:SIGN_ON allows you to:

♦ Have different IDs sign on to the same MANTIS user.

♦ Have different IDs to permit users to change personal passwords.

♦ Set systemwide terminal or user-related defaults (Printer ID and attributes, terminal attributes, SLOT, and SLICE).

♦ Provide additional security checks or sign on to security facilities and databases.

♦ Sign on a Batch MANTIS user automatically.

♦ Sign on MANTIS user based on terminal, TP monitor, printer ID, and passed parameters.

♦ Examine or modify parameters of background tasks (as an option).

You can also force the program CONTROL:SIGN_ON to chain to a program instead of chaining to the user facility program, and/or to pass a parameter to the chained program by initializing the text variable PARAMETER.

> **NOTE**
>
> When modifying the program MASTER:SIGN_ON, leave one terminal signed on to MASTER. Test your changes thoroughly at another terminal. The terminal signed on to MASTER allows you to back out changes if an error prevents another user from signing on.

The following code sample shows the program MASTER:SIGN_ON:

```
 10 ENTRY SIGN_ON(NAME,CLEARANCE,PARAMETER)
 20 .TEXT NAME(16),CLEARANCE(16),PARAMETER(100)
 30 .|To suppress the standard MANTIS sign on procedure, pass a
 40 .|valid user name and password to the MANTIS program
 50 .|CONTROL:SIGN_ON.  You can force CONTROL:SIGN_ON to chain
 60 .|to a program of your choice, and optionally pass a parameter
 70 .|to the chained program by initializing the text
 80 .| variable PARAMETER, as shown here.
 90 .|--------------------------------------------------------**
100 .|PARAMETER:
110 .|
120 .|AAAAAAAAA;BBBBBBBBBB
130 .|
140 .|where:
150 .|
160 .|AAAAAAAAA   - is the program to be chained to instead
170 .|              of the user facility program
180 .|
190 .|;           - is a mandatory separator if 'BBBBBBBBB' exists
200 .|
210 .|BBBBBBBBB   - is the parameter data to be passed to the
220 .|              'AAAAAAA' program if 'AAAAAAA' is supplied,
230 .|              or to the user facility program if 'AAAAAAAA'
240 .|              is not supplied.
250 .|
260 .|Both the 'AAAAAAAA' and 'BBBBBBB' parameters are optional.
```

```
270 .|-------------------------------------------------------**
280 .|Additionally, you can specify certain terminal options, CALL
290 .|an interface program to verify sign-on information, etc., in
300 .|this program.  If you use background tasks or the MANTIS
310 .|shared pool (which loads the pool in the background), you
320 .|must bypass any code that modifies the terminal or calls an
330 .|interface program that does.  See the examples that follow.
340 .|IF TERMINAL="BACK$MAN"
350 .|CHAIN"CONTROL:SIGN_ON",NAME,CLEARANCE,PARAMETER
360 .|END
370 .|IF TERMINAL="DUMMY"
380 .| ATTRIBUTE(TERMINAL)="(60,132)"
390 .| CHAIN"CONTROL:SIGN_ON",NAME,CLEARANCE,PARAMETER
400 .|END
410 .|INTERFACE OBTAIN_USER("XXXXX","XXXXXX")
420 .|CALL OBTAIN_USER
430 .|ATTRIBUTE(TERMINAL)="LOW"
440  |-------------------------------------------------------
450 .CHAIN"CONTROL:SIGN_ON",NAME,CLEARANCE,PARAMETER
460 EXIT
```

Modify MANTIS termination

When your facility program or application program terminates MANTIS, it chains to the program MASTER:TERMINATE. This process allows you to perform certain MASTER User installation-dependent functions before exiting from MANTIS.

MASTER:TERMINATE functions let you:

♦   Sign off databases or security systems.

♦   Log activity notes.

♦   Perform any site-related termination logic, such as call interfaces.

To perform these functions, modify the MASTER:TERMINATE program in your library as required.

RETURN_CODE is used by the MANTIS Print Facility to provide a return status when running in batch. You can also use this facility to return a status for any applications that you run using Batch MANTIS.

The following code sample shows the program MASTER:TERMINATE:

```
10 ENTRY TERMINATE(RETURN_CODE)
20 .|
30 .| This program can be modified by the Master User to
40 .| invoke various installation-dependent housekeeping
50 .| functions before exiting from MANTIS.
60 .|
70 .BIG RETURN_CODE:|        return code to be used in Batch MANTIS
80 .CHAIN"CONTROL:TERMINATE",RETURN_CODE
90 EXIT
```

Have all facility programs chain to the MASTER:TERMINATE program if you want to use it.

NOTE
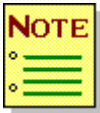
When modifying the MASTER:TERMINATE program, leave one terminal signed on to MASTER. Test your changes thoroughly at another terminal. The terminal signed on to MASTER allows you to back out changes if an error occurs.

Printing

You can route output to a screen, to a printer, or to both. Most MANTIS facilities (screen design, file design, prompter design) contain print functions, as indicated on individual menus. The MANTIS Print Facility also allows you to print MANTIS entities.

To print a hard copy, you must specify where to route the data in one of the following ways:

♦   Define a default printer for the user when you create the user profile (see "Insert a user profile" on page 51). Unless otherwise indicated, all output for the user is routed to the default printer.

♦   Use the PRINTER statement to define a specific printer. For a description of this statement, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

♦   Use the (ATTRIBUTE(PRINTER)) statement to specify a particular printer class. For more information about printer classes, see "Printing modes" on page 91 and "Control the format of printed output" on page 97.

♦   Use the Printer Exit facility for print queuing (merging the output with your installation's queuing facility).

Printing modes

MANTIS produces two types of printing modes, identified by class:

♦ **CLASS(0).** Includes normal 3270 data streams with Set Buffer Address (SBA) and Start Field (SF) orders. Null lines might be compressed, depending on your printer.

♦ **CLASS(1).** Includes SNA Character String (SCS) data streams with New Line (NL) and Form Feed (FF) orders. Null lines are printed.

3270 printers can print either CLASS(0) or CLASS(1) data streams. SCS printers can only print CLASS(1), which means SCS printers must be sent SCS-type data streams.

Use the ATTRIBUTE(PRINTER) statement to set the desired buffer size (for SBA mode) or the page size (for SCS mode), and the data stream type, for example, CLASS(0) or CLASS(1).

In CLASS(0) format, the buffer (which is derived from the page size) generally must not exceed 3440 bytes (43 x 80) because of the physical buffer size limitations of the printer and the control unit.

For CLASS(1), the page size must not exceed the capacity of the printer. For example, if the printer is only capable of printing 80 columns, do not set the page size to 132 columns.

Class is specified by setting CLASS(n) on the ATTRIBUTE(PRINTER) statement. The default value is CLASS(0) or SBA mode.

The following examples show printer settings that create 3270 data streams with buffers of 1920 bytes, 3440 bytes, and 3440 bytes, respectively:

```
ATTRIBUTE(PRINTER)="(24,80)"
ATTRIBUTE(PRINTER)="(43,80)"
ATTRIBUTE(PRINTER)="(43,80),CLASS(0)"
```

The following examples create SCS data streams with logical page sizes of 43 x 80, 60 x 80, and 60 x 132, respectively:

```
ATTRIBUTE(PRINTER)="(43,80),CLASS(1)"
ATTRIBUTE(PRINTER)="(60,80),CLASS(1)"
ATTRIBUTE(PRINTER)="(60,132),CLASS(1)"
```

To allow for a bottom margin, you can define fewer lines in the ATTRIBUTE(PRINTER) statement than the printer can support.

In SCS mode, with OUTPUT PRINTER in effect, a CONVERSE statement causes a page of data to print with a form feed. You can also define the logical page size larger than the physical terminal size (spanning multiple pages).

Printer exits

To enable print queuing or special print capabilities, use the Printer Exit Facility. A Printer Exit Facility name can be identified in the following ways:

♦   You can code a printer exit name when creating a user profile (see "Insert a user profile" on page 51).

♦   Any user can name a printer exit through the VIA option of the OUTPUT statement. A name coded by the VIA option has precedence over the default name in a user profile. If this exit does not exist, MANTIS attempts to use the exit coded in the user profile.

If neither of these exits exist and output is available to print (e.g., CONVERSE), MANTIS writes to a printer automatically. MANTIS ignores any errors during the print process. To do error checking on the printer status, use the Printer Exit Facility.

Print modes, CLASS(0) and CLASS(1), have no meaning when using a printer exit. The name given to an exit determines the type of data stream sent to the printer exit. If the name is in the format /MANX*aaaa*, a data stream in row/column format is sent to the printer exit; otherwise, a 3270 data stream is sent. When /MANX*aaaa* is specified, the exit module name is MANX*aaaa*. Specify MANX exactly as shown; *aaaa* can be any alphanumeric characters.

The following table defines the layout of data passed to the Printer Exit Facility:

Position	Contents
1–8	Printer ID (as determined by MANTIS)
9–24	User name
25–57	MANTIS program name issuing the print request
58	Filler
59–60	Data length (in binary)
61–*n*	Data to be printed (row/column format for /MANX*aaaa*, or 3270 format)

Use the Printer Exit Facility to:

♦ Route printer output to a different printer by replacing the Printer ID field.

♦ Instruct MANTIS not to output the data by clearing the Printer ID field to blanks.

♦ Modify the output by overlaying the data to be printed.

After calling the exit, if the Printer ID field is not blank, MANTIS writes the data to the designated printer.

The /MANX*aaaa* type of exit receives data in the following format:

♦   1-byte, binary row position (range 0–254).

♦   1-byte, binary column position (range 0–254).

♦   1-byte, binary number of attribute flags (range 0–*n*).

♦   1-byte, binary attribute flag 1 (color):

0—no color	4—green
1—blue	5—turquoise
2—red	6—yellow
3—pink	7—neutral

♦   1-byte, binary attribute flag 2 (assorted attributes):

X'80'—modified data tag	X'08'—overline
X'40'—reverse video	X'04'—left bar
X'20'—blinking	X'02'—right bar
X'10'—pen-detectable	X'01'—underline

♦   1-byte, binary attribute flag 3 (assorted attributes):

X'80'—protected	X'08'—no display of field on redisplay
X'30'–hidden	X'04'—forced uppercase
X'20'—high intensity	X'02'—highlighted
X'10'—low intensity	

♦   1-byte, binary attribute flag 4 (assorted attributes):

X'80'—DBCS	X'08'—masked
X'40'—text	X'04'—autoskip
X'41'—mixed	X'20'—numeric
X'10'—heading	X'02'—small, floating-point number

♦ 1-byte, binary attribute flag 5 (assorted attributes):

X'80'—field modified - data tag	X'08'—field in active map
X'40'—field modified - user modification	X'04'—field partially displayed
X'20'—displayed for this logical I/O	X'02'—displayed field in error
X'10'—displayed on terminal	X'01'—displayed field was in error

♦ 1-byte, binary maximum length of field (range 1–254).

♦ 1-byte, binary current length of field (range 0–254).

♦ *n* bytes, maximum length of field data.

This sequence is repeated for every field in the logical display. A zero-length field is defined at row 0, column 0. The fields used by MANTIS, normally at the bottom of the screen (Message Line and input areas), are to the exit with the specified row numbers of 253 and 254. Four bytes of high values (X'FFFFFFFF') follow the last sequence.

Print specifications

If the requested printer is VTAM-driven, be sure that the printer was connected to CICS. Make the connection through the CONNECT=AUTO parameter coded on the TYPETERM definition for the printer, or through some other means. If you use the Resource Security Facility, the printer's CICS definition entry must have the appropriate operator security level coded.

The printer task transaction ID is the one specified in the PRTRANS parameter in the Customization Macro, or its default.

A CICS printer exit is called using EXEC CICS LINK. The address of the printer exit layout is in the first four bytes of the TWA.

Prevent interleaving of print jobs

If a print job is started during another print job, pages of the two jobs become interleaved. Interleaving occurs because CICS prints a buffer from one job, then the other, until both jobs are completed. To prevent interleaving, use the ENQUEUE and DEQUEUE statements as shown:

```
ENQUEUE "PRINTER" + printer-id
```

In the previous format, ENQUEUE reserves "PRINTER" + *printer-id* as a resource. If all programs follow this convention, output to that printer is single-threaded. To free the printer, follow the ENQUEUE with a DEQUEUE after the OUTPUT PRINTER and SHOW, LIST, or PRINT:

```
DEQUEUE "PRINTER" + printer-id
```

> **NOTE**
>
> The MANTIS Print Facility uses the technique illustrated in the two previous examples.   For this technique to work, all programmers must follow this convention. Any output to the terminal automatically dequeues the resource.

Control the format of printed output

Use the parameters and statements in this section to control printed output. Although general guidelines for setting up print parameters are provided, specifics depend on installation, equipment, and individual requirements.

You can generate output using the MANTIS Print Facility or with MANTIS programming commands. If you generate output with programming commands (LIST, PRINT, SHOW), or if you print screens larger than the size of your terminal screen, an understanding of the interaction among the following components is especially important. The components are discussed in the following MANTIS and IBM documentation:

Component	Document
CICS definitions for transactions and printers	IBM's *CICS Resource Definition (Online)*
Differences between printing in programming mode and Run a Program by Name mode; programming statements that affect printing	*MANTIS Facilities, OS/390, VSE/ESA*, P39-5001

Printing modes. Printing modes are identified by class. Printer class refers to the protocol MANTIS uses when sending data to an output device. MANTIS supports the two printer classes 0 and 1. You can modify printer class through an extension of the ATTRIBUTE statement.

Printer Class 0, the default printer class, produces a 3270 data stream that could result in the compression of lines having no fields. To omit blank header or footer lines on the page, use Class 0.

The maximum buffer size for Class 0 is usually 3440 bytes, which is a terminal size of 43 rows and 80 columns. Page and buffer size are determined by the ATTRIBUTE(PRINTER) statement in effect. If you set output dimensions so that the output exceeds the buffer size, an ATNI abend can be generated.

Printer Class 1 generates the SNA character set (SCS). Class 1 inserts a form feed as the first character of each page and does not compress lines that have no fields. The page size specified for a Class 1 printer can be any size up to the printer's limit. If you use the OUTPUT(PRINTER) and CONVERSE statements, and you want printed output to include blank lines, set Class to 1 in the appropriate ATTRIBUTE statement (the printer must support an SCS data stream).
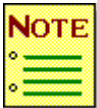
NOTE Form Feed and Carriage Return characters can be customized within the SCS data stream by using the PRTFTOP and PRTFBOT customization macro parameters. For more information, see the maintenance parameter descriptions in "MANTIS customization and maintenance" on page 251.
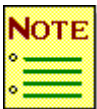
NOTE Some printers support either 3270-type or SNA-type data streams exclusively. Some printers support both types of data streams. The documentation that accompanies your printer provides this information.

CICS RDO parameters that affect printing. The PROFILE and TYPETERM RDO definitions are explained in detail in IBM's CICS Resource Definition Guide. The following recommendations are guidelines only. Your site can have different requirements based upon your configuration or standards.

♦ **PROFILE definition.** If your installation uses large-screen terminals (3278-3, -4, -5, and so on), set the SCRNSIZE parameter to "ALTERNATE" in the PROFILE referred to in the MANTIS TRANSACTION definition(s).

♦ **TYPETERM definition.** The following DEVICE PROPERTIES of the TYPETERM definition affect printing.

- DEFSCRN—If the printer is set for a 3270 stream (Class 0), do not exceed its buffer capability. The standard buffer size is 3440, which is equivalent to a 3278-4 (43 X 80) terminal. Check the relevant dimensions for your device. The minimum size must be 1920 (24 X 80). If the printer supports an SNA-type data stream (Class 1), the minimum size is also 1920 (24 x 80).

- ALTSCRN—Defaults to the DEFSCRN values if not explicitly specified. If you wish to print a logical screen larger than your terminal, define its size here. If you have multiple logical screen sizes, define the largest size.

- Form feed—Set to YES if your printer supports an SNA-type data stream.

- AUTOCONNECT—Specifying YES means a task can write to the printer without operator intervention, to acquire the printer after CICS startup.

Consult your IBM CICS documentation for further information on defining printers to CICS.

MANTIS User profile. In each user profile, the ASSOCIATED PRINTER parameter must be set to a valid CICS printer terminal ID.

ATTRIBUTE statements. The ATTRIBUTE statement is used in programs in your Master User's library (MASTER:SIGN_ON or MASTER:START_FACILITY) to override or return terminal and printer parameters defined in CICS. Certain reserved statements and function options are not available to users other than the Master User unless allowed by the ATTRALL=YES parameter in the Customization Macro. Three parameters of the statement affect printing: TERMINAL, PRINTER, and CLASS.

ATTRIBUTE(TERMINAL) is generally used to return terminal dimensions in programming mode. You can also use it to tell MANTIS that the terminal can physically handle a parameter not defined in CICS. For example, you might use ATTRIBUTE(TERMINAL) to specify DBCS support.

NOTE
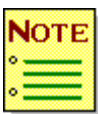
If the terminal cannot physically support a parameter that you set with ATTRIBUTE(TERMINAL), MANTIS abends.

ATTRIBUTE(PRINTER) is used to specify the page size of the printer if it is different (either larger or smaller) from that of the display terminal where the print task originates. The exception is when the screen to be printed fits within the page size of both the display terminal and the printer.

NOTE
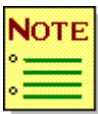
If the terminal cannot physically support a parameter that you set with ATTRIBUTE(PRINTER), MANTIS abends.

How the printing method affects output

♦ The MANTIS Print Facility formats output according to the ATTRIBUTE(PRINTER) statement or its default, assuming that your printer can physically handle what the ATTRIBUTE(PRINTER) says, and the setting of the TRMTYPE parameter in the printer's CICS definition is compatible. If the default Class of 0 is not changed, lines with no fields are suppressed. To override this default if the printer is compatible, use ATTRIBUTE(PRINTER) to set Class equal to 1.

♦ If you generate printed output using the OUTPUT PRINTER and SHOW, LIST, or PRINT statements, output can differ depending on whether the print is generated from programming mode or from Run a Program by Name mode.

Programming mode. The physical size of the display terminal where the print task originates determines the page size of printed output. You cannot override this page size with an ATTRIBUTE(PRINTER) or ATTRIBUTE(TERMINAL) statement.

Run a Program by Name mode. Page size is determined at the first output (to either terminal or printer) during the current MANTIS session. The size is in effect for the rest of the current program, until the program is terminated or chained from. Page size depends on whether the first output is generated by an OUTPUT SCREEN, OUTPUT PRINTER, or OUTPUT SCREEN PRINTER statement, and whether an ATTRIBUTE statement is used to change values of the CICS definition. The following table shows the possibilities for determining page size:

Attribute statement used	OUTPUT SCREEN (OUTPUT statement in effect at time of first output)	OUTPUT PRINTER	OUTPUT SCREEN PRINTER
None	Terminal CICS definition	Terminal CICS definition	Terminal CICS definition
ATTRIBUTE (TERMINAL) only	ATTRIBUTE (TERMINAL)*	ATTRIBUTE (TERMINAL)*	ATTRIBUTE (TERMINAL)*
ATTRIBUTE (PRINTER) only	Terminal CICS definition	ATTRIBUTE (PRINTER)	Smaller of terminal CICS definition or ATTRIBUTE (PRINTER)**
ATTRIBUTE (TERMINAL) and ATTRIBUTE (PRINTER) both specified	ATTRIBUTE (TERMINAL)*	ATTRIBUTE (PRINTER)	Smaller of ATTRIBUTE (TERMINAL) or ATTRIBUTE (PRINTER)**

*   Recommended for query use only, but if set, is used.
**   MANTIS selects the smaller row and column sizes if the smaller sizes are split between the CICS definition and the ATTRIBUTE statement. For example, if the CICS definition specifies 27 rows and 132 columns and ATTRIBUTE(PRINTER) is set to 43 rows and 80 columns, MANTIS sets the page size to 27 rows and 80 columns.

♦ **OUTPUT PRINTER and CONVERSE.** If you generate printed output using the OUTPUT PRINTER and CONVERSE statements, output is formatted according to the ATTRIBUTE(PRINTER) statement in effect. If no ATTRIBUTE(PRINTER) value was specified in a MANTIS program, MANTIS sets ATTRIBUTE(PRINTER) to the terminal's ALTSCRN or DEFSCRN parameter (ALTSCRN has priority).

Printer Exit example. To enable print queuing or special print capabilities, use the Printer Exit Facility. Identify a Printer Exit Facility name in one of the following ways:

♦ As the Master User, you can code a printer exit name when the user profile is created.

♦ Any user can name a printer exit through the VIA option of the OUTPUT statement.

♦ A name coded using the VIA option takes precedence over the printer exit name in the user profile. When the MANX*aaaa* printer exit name is specified, MANTIS sends a specially formatted data stream of the entire logical display (255 rows by 255 columns).

Notes on /MANX*aaaa* Printer Exits:

♦ To print or process the print data in the exit, and to stop MANTIS from printing the original print data, the exit must set the PRINTER field in the passed print area to blanks.

♦ The address of the print area is in the first 4 bytes of the TWA. The print area has the following format:

Start	Length	Description
0	8	Printer ID
8	16	MANTIS user name
24	33	MANTIS program name
57	1	Filler
58	2	Data length
60	Variable	Field entries terminated by X'*FFFFFFFF*'
Layout of field entry		
0	1	Row (format: row 00; column 00)
1	1	Column to row (row 254; column 254)
2	1	Number of attributes (up to 5)
3	*n*	Attributes
3+*n*	1	Maximum length of field
4+*n*	1	Current length of field
5+*n*	*m*	Data field

(where n = number of attributes; m = maximum length of field)

Attribute values

Most of these attributes are for internal MANTIS use and do not affect the exit.

- ◆ First attribute byte:

    - X'01' Blue

    - X'02' Red

    - X'03' Pink

    - X'04' Green

    - X'05' Turquoise

    - X'06' Yellow

    - X'07' Neutral

- ◆ Second attribute byte:

    - X'80' Modified Data Tag

    - X'40' Reverse Video

    - X'20' Blinking

    - X'10' Pen Detectable

    - X'08' Over lining

    - X'04' Left Outline Bar

    - X'02' Right Outline Bar

    - X'01' Underlining

- ◆ Third attribute byte:

    - X'80' Protected

    - X'40' Insert Cursor

    - X'30' Hidden (no intensity)

    - X'20' High Intensity

    - X'10' Low Intensity

    - X'08' Don't Display On Redisplay

    - X'04' Forced Uppercase

    - X'02' Field Highlighting Required

- ◆ Fourth attribute byte:

    - X'80' DBCS

    - X'40' Text

    - X'41' Internal Text/DBCS Mixed-data

    - X'20' Numeric

    - X'10' Heading

    - X'08' Numeric Data Mask Present

    - X'04' Cursor Auto Skip Required

    - X'02' Small Floating Point Numeric

- ◆ Fifth attribute byte:

  - X'80' Field Was Modified

  - X'40' Field Was Modified For Real

  - X'20' Field Displayed This Logical I/O

  - X'10' Field Displayed On Terminal

  - X'08' Field Is From The Active Map

  - X'04' Field Only Partially Displayed

  - X'02' Display Field In Error

  - X'01' Display Field Was In Error

The following code sample shows a model using the alternate format printer exit.   This example illustrates a technique for processing the data area passed to the printer exit when the request is in the format OUTPUT PRINTER VIA /MANX*aaaa*.

```
MANXEXIT DFHEIENT
        USING TWAUSER,R12
        EXEC CICS ADDRESS TWA(R12)
        L   R4,PARMADDR        GET ADD OF PRT DATA AREA
        MVC PRINTER,0(R4)       PROCESS PRINTER NAME AS DESIRED
        LA  R4,8(R4)            BUMP PAST PRINTER NAME
        MVC USER,0(R4)          PROCESS USER NAME AS DESIRED
        LA  R4,16(,R4)          BUMP PAST USER NAME
        MVC PROGNAME,0(R4)      PROCESS PROGRAM NAME AS DESIRED
        LA  R4,33(,R4)          BUMP PAST PROGRAM NAME
        LA  R4,1(R4)            BUMP PAST 1 BYTE OF FILLER
        MVC DATALEN,0(R4)       PROCESS DATA LENGTH AS DESIRED
        LA  R4,2(,R4)           BUMP PAST LENGTH, PT TO 1ST FIELD
        XA  R5,R5               CLEAR WORK REG
```

```
MAINLOOP DS  0H                       PROCESS EVERYTHING IN DATA AREA
         CLC 0(4,R4),=X'FFFFFFFF'     END OF ENTRIES?
         BE  RETURN                   YES,DONE
         BAL R9,DOROWCOL              PROCESS ROW AND COLUMN BYTES
         LA  R4,2(,R4)                POINT TO ATTRIBUTE COUNT
         ICM R5,1,0(R4)               GET COUNT OF ATTRIBUTES
         LA  R4,1(R4)                 POINT TO FIRST ATTRIBUTE BYTE
         BZ  NOATTRS                  NO ATTRIBUTES
         BAL R9,DOATTRS               GO PROCESS ATTRIBUTES
NOATTRS  DS  0H                       PAST ATTRS, ON TO DATA LENGTHS
         LA  R4,0(R5,R4)              PT TO MAXIMUM LENGTH OF FIELD
         ICM R5,1,1(R4)               WHAT IS CURRENT LENGTH OF FIELD?
         BZ  NODATA                   IF ZERO, THEN FIELD IS EMPTY
         BAL R9,DODATA                GO PROCESS FIELD DATA
NODATA   DS  0H                       PREPARE TO PT TO NEXT DATA FIELD
         IC  R5,0(R4)                 GET MAXIMUM FIELD LENGTH
         LA  R4,2(R5,R4)              PT TO NEXT DATA FIELD
         B   MAINLOOP                 GO PROCESS IT
RETURN   DS  0H                       ALL DONE
         EXEC CICS RETURN
DOROWCOL DS  0H
*    INPUT  -R4 - POINTS TO ROW BYTE
*        R4 + 1 - POINTS TO COLUMN BYTE
*    OUTPUT -R4 - UNCHANGED
*        R5 - UNCHANGED
*        ROW AND COLUMN PROCESSED AS DESIRED
         MVC ROW,0(R4)                MOVE ROW BYTE
         MVC COLUMN,1(R4)             MOVE COLUMN BYTE
         BR  R9
```

```
        DOATTRS  DS  0H                           PROCESS FIELD ATTRIBUTES
        *    INPUT  -R4 - POINTS TO FIRST ATTRIBUTE BYTE
        *           R5 - CONTAINS NUMBER OF ATTRIBUTES FOR FIELD
        *    OUTPUT -R4 - UNCHANGED
        *           R5 - UNCHANGED
        *        INSERT LOGIC TO PROCESS ATTRIBUTE BYTES AS DESIRED
                 XC  ATTRS,ATTRS                  CLEAR RESIDUAL
                 LR  R6,R5
                 BCTR R6,0                         DECREMENT FOR EX
                 EX  R6,MOVEATTR                  MOVE ATTRIBUTES
                 BR  R9                           MOVEATTR
        MOVEATTR MVC ATTRS(0),0(R4)               MOVE ATTRIBUTE BYTES
        DODATA   DS  0H                           MOVE ACTUAL FIELD DATA
        *    INPUT  -R4 - POINTS TO MAXIMUM FIELD SIZE
        *           R4 + 2 - POINTS TO FIELD DATA
        *           R5 - CURRENT FIELD SIZE
        *    OUTPUT -R4 - UNCHANGED
        *           R5 - UNCHANGED
        *    INSERT LOGIC TO PROCESS DATA FIELDS AS DESIRED
                 XC  DATAAREA,DATAAREA            CLEAR RESIDUAL
                 LR  R6,R5
                 BCTR R6,0                         DECREMENT FOR EX
                 EX  R6,MOVEDATA                  GO MOVE IT
                 BR  R9
        MOVEDATA MVC DATAAREA(0),2(R4) MOVE DATA FIELD
        PRINTER  DS  CL8
        USER     DS  CL16
        PROGNAME DS  CL33
        DATALEN  DS  H
        ROW      DS  X
        COLUMN   DS  X
        ATTRS    DS  XL5                          CURRENT MAXIMUM
        DATAAREA DS  CL255
        DFHEISTG DSECT
        TWAUSER  DSECT
        PARMADDR DS  F                            ADDR OF PRINT DATA AREA
             END
```

Reserved statement and function options

As the Master User, you can use reserved options on the ATTRIBUTE statement and on the ATTRIBUTE, CURSOR, and MODIFIED functions.

Reserved statement options are:

```
ATTRIBUTE(TERMINAL)=e1,e2,...
```

♦ Sets attributes for the current user terminal, which take priority over setting map or field attributes.

```
ATTRIBUTE(map,(row,col))=e1,e2,...
```

♦ Sets attributes for a field or heading located at the row and column specified.

The reserved function options are:

```
ATTRIBUTE(map,(row,col))
```

♦ Returns the attributes of a field located at the physical row and column of the display.

```
MODIFIED(map,(row,col))
```

♦ Returns true if a field located at the physical row and column of the display was modified.

```
CURSOR(map,(row,col))
```

♦ Returns true if the cursor is positioned in a field located at the physical row and column of the display.

You can make these reserved options available to all of your users by setting the Customization Macro parameter ATTRALL=Y. See "Customization Macro" on page 252 for more information.

If ATTRALL=N is set, users other than the Master User receive an invalid option message when attempting to use the reserved options.

For detailed information on the ATTRIBUTE statement and function, and the MODIFIED and CURSOR functions, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

ATTRIBUTE statement for terminal and row/column

Using the ATTRIBUTE statement, you can set attributes for the physical terminal or for a row/column position on a map.

$$\textbf{ATTRIBUTE} \begin{Bmatrix} \textbf{(TERMINAL)} \\ \textbf{(}\textit{map - name}\textbf{,(}\textit{row}\textbf{,}\textit{col}\textbf{))} \end{Bmatrix} \textbf{ = }\textit{e1}\textbf{[,}\textit{e2}\textbf{,}\textit{e3}\textbf{, …]}$$

(TERMINAL)

Description *Optional.* Specifies that the physical terminal should assume the attributes that follow.

Considerations

♦ Use the ATTRIBUTE(TERMINAL) statement in environments where it is impossible to determine the characteristics of a terminal through the assistance of a TP monitor.

♦ MANTIS does not support dynamic switching of terminal sizes via the ATTRIBUTE(TERMINAL) statement for CICS release 1.7 and above. Dynamic switching is not supported by IBM and requires modification of CICS control blocks.

♦ If the ATTRIBUTE(TERMINAL) is set to "UPP", UPPERCASE:NO in the Full-Screen Editor has no effect.

♦ ATTRIBUTE(TERMINAL)="NLS(*xxxx*)" can be used to invoke a customizable translation table in countries that use a nonRoman, alternate alphabet. See page 620 for more information on this table. Use this feature only under Cincom guidance.

map-name,(row,col)

Description   *Optional.* Represents the map name and initial row and column position of the field to which you wish to assign attributes.

Options   1–255

Considerations

♦   *Row* and *column* must be separated by a comma and enclosed in parentheses.

♦   The *row*, *column* coordinates for the ATTRIBUTE statement are based on physical changes if a CONVERSE statement specifies *row*, *column* coordinates other than (1,1) for the screen display. This can be handled in a program by including the screen row and column within the ATTRIBUTE statement. For example:

```
SROW=3:SCOL=4
CONVERSE MAP(SROW,SCOL)
ATTRIBUTE(MAP,(5+(SROW-1),10+(SCOL-1)))="BRI"
```

♦   This example sets the bright attribute for a field that was moved from physical display position (5,10) to (7,13) by the CONVERSE of map (3,4). In addition, for this release of MANTIS, a CONVERSE MAP RELEASE prior to the ATTRIBUTE statement allows the screen definition coordinates to be specified on the ATTRIBUTE statement without adjustment for the converse *row,column* coordinates.

e1[,e2,e3,...]

Description   *Required.* Identifies the attribute(s) you want to assign to the terminal or the map at a specified row and column position.

Format   Text expression that evaluates to one or more of the attributes available. You must enclose the attribute list in quotation marks.

Options   Underlined characters in the following attributes show abbreviations that you can use. Do not include spaces (e.g., NO COLOR is abbreviated as NOC).

      * <u>BLI</u>NKING   <u>NO</u> <u>B</u>LINKING

        <u>BOX</u>ED   <u>UNB</u>OXED

      * <u>COL</u>OR   <u>NO</u> <u>C</u>OLOR

      * <u>DE</u>TECTABLE   <u>NON</u>-<u>D</u>ETECTABLE

        <u>DBCS</u>   <u>NO</u> <u>D</u>BCS

      * <u>VID</u>EO   <u>R</u>EVERSE VIDEO

      * <u>UPP</u>ER   <u>LOW</u>ER

      * <u>UND</u>ERLINE   <u>NO</u> <u>U</u>NDERLINE

      * <u>SEND</u> <u>ALL</u> <u>FI</u>ELDS   <u>SEND</u> <u>M</u>ODIFIED <u>FI</u>ELDS

      * Only applies for TERMINAL ATTRIBUTE function for row/column attributes.

Considerations

♦ The CLASS attribute for terminals and printers allows users to select an operation mode for their device within the given device environment. Values are:

- 0—Default printing mode

- 1—SCS printing support for the 3270 environment

For more details on printing modes, see "Printing" on page 90.

♦ Specify all row and column values relative to (1,1).

♦ The terminal or printer must support the attributes you specify. MANTIS does no validation to ensure the device can handle the specified attributes. Device errors or program abends may occur if the device cannot support the generated data stream.

Examples

```
ATTRIBUTE(TERMINAL)="COLOR"
ATTRIBUTE(TERMINAL)="UPP"
```

ATTRIBUTE function for row/column attributes

Using the ATTRIBUTE function in the following syntax, you can display the attributes for the specified field:

ATTRIBUTE(*map-name*,*(row,col)*)

---

map-name

Description   *Required*. Specifies the name of the screen whose row/column attributes you want returned.

Format   Must be a MANTIS symbolic name defined in a previously executed SCREEN statement.

(row,col)

Description   *Required*. Specifies the coordinates of the field within the logical display whose attributes you want returned.

Consideration The *row* and *column* positions must fall within a field or heading in the specified map or MANTIS issues an error message.

General considerations

♦ This format of the ATTRIBUTE function returns a text string in the following format:

```
(row,col),length,type,attributes
```

In this example, *row* and *col* are the row and column coordinates of the field or heading in the logical display, *length* is the length of the field, *type* indicates type of field, and *attributes* is a list of the 3-character abbreviations of the field's attributes.

♦ This statement can return one of the following types for a field. Underlining indicates the 3-letter abbreviation you see when the values are returned:

T<u>EX</u>T

<u>NUM</u>ERIC

<u>HEA</u>DING

<u>DBC</u>S

♦ If a field is assigned to a text variable, you can use the POINT function to find out if that field has a particular size or attribute. For more information about the POINT command, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

Example   In this example, the field named TEST_FIELD begins on the screen at row 9, column 2 and is 14 bytes long. It is defined as text, displays in red reverse video, unprotected, normal intensity, and autoskip is in effect.

```
SHOW ATTRIBUTE(MAP,TEST_FIELD)
(9,2),14,TXT,RED,REV,UNP,NOR,AUT
```

CURSOR row/column function

Use the following CURSOR function to determine if the cursor was positioned within a field addressed by a row/column position in a map:

CURSOR*(map-name,(row,col)***)**

map-name

Description   *Required.* Specifies the screen on which you want the cursor position returned.

(row,col)

Description   *Required.* Specifies a row and column position on the map within a field or heading where you are testing for cursor placement.

Considerations

♦ The row/column position must fall within the display range of a field, or heading in the map or MANTIS issues an error message.

♦ TRUE is returned if the cursor is positioned within the field or heading, and FALSE is returned if not.

If the value returned by row is 256, the cursor was located outside of the Logical Terminal (LTI).

MODIFIED row/column function

Use the following syntax of the MODIFIED function to determine if a field located at a particular row/column position was modified during the last physical I/O to the terminal.

MODIFIED*(map-name,(row,col)***)**

---

map-name

Description   *Required.* Specifies the screen (map) that contains the field you want to determine was modified.

(row,col)

Description   *Required.* Specifies the row and column position on the screen of the field you want to determine was modified.

Considerations
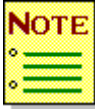
♦   The row and column position must fall within the display range of a field in the screen, or MANTIS issues an error message.

♦   If you are using the MODIFIED function in a conditional expression, MANTIS evaluates 0 to FALSE and any other number to TRUE.

Example   In this example, if the field located at row 4, column 15 was modified, TRUE is returned and the message displays.

```
ENTRY TEST_MODIFIED
.SCREEN MAP("TEST_SCREEN")
.CONVERSE MAP
.IF MODIFIED(MAP,(4,15))
..SHOW"FIELD WAS MODIFIED"
.END
EXIT
```

Using the MEMORY command

Use the MEMORY command to view the hexadecimal values of MANTIS variables, work areas, and control blocks. The MEMORY command can assist you with debugging. You can use MEMORY to test for a certain condition and use the FAULT for diagnostics.

NOTE

Warning: The MEMORY command with no options causes an immediate task 'OC1' ABEND and should not be coded except under Cincom guidance.

$$
\textbf{MEMORY} \left\{
\begin{array}{l}
\textbf{WAIT} \left\{ \begin{array}{l} \textbf{OFF} \\ \underline{\textbf{ON}} \end{array} \right\} \left[\begin{array}{l} \textit{code} \\ \textit{signal} \end{array} \right] \\
\textbf{"} \textit{table - id}[\textbf{,}\textit{offset}]\ [\textbf{,}\textit{length}]\textbf{"} \\
\textbf{SHOW } \textit{variable}
\end{array}
\right\}
$$

The individual options for the MEMORY command are described in

General considerations

♦ MEMORY WAIT and MEMORY SHOW are available to all users; however, MEMORY "*table-id* [,*offset*] [,*length*]" is only available to the Master User.

♦ MEMORY "*table-id* [,*offset*] [,*length*]" forces running in conversational mode. Conversational mode is in effect until sign off occurs for this MANTIS user.

♦ You can execute the MEMORY command in immediate mode using the Line Editor (refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001, for more information on using the Line Editor). If the MEMORY command is entered in the Full-Screen Editor, a WAIT is required to see any response.

♦ MEMORY does not check whether an address is valid. If an address is invalid, MANTIS abends with the 'OC4' ABEND.

MEMORY WAIT

The MEMORY WAIT command sets FAULT trapping on or off to test for a particular FAULT condition. A diagnostic abend occurs when that FAULT condition occurs. Execute the MEMORY WAIT command using the Line Editor, or execute the MEMORY ON/OFF utility. See "MEMORY_ON/MEMORY_OFF" on page 219 for information about this utility.

$$\textbf{MEMORY WAIT} \begin{bmatrix} \textbf{OFF} \\ \underline{\textbf{ON}} \end{bmatrix} \begin{bmatrix} \textit{code} \\ \textit{signal} \end{bmatrix}$$

WAIT

Description   *Required.* Indicates setting the diagnostic trap on or off.

Default   ON

Options   ON   Indicates FAULTs (errors) are to be trapped. When the trap is invoked, MANTIS will abend with a SOC6 abend. The accompanying dump can be used in problem diagnosis by Cincom Support.

OFF   Clears the trap code.

code

Description   *Optional.* Specifies the FAULT code to trap while processing.

Format   An expression evaluating to a 3-character text string enclosed in quotes.

Considerations

   ♦   A subsequent FAULT causes a task to ABEND if the FAULT code issued matches the trap code. (A FAULT code is the same as an error message's second three bytes. The first three bytes are the subsystem ID).

   ♦   Diagnostic trap remains on until MANTIS is terminated, or MEMORY WAIT is reissued to a new code, or turned off. Diagnostic trap is only for the session in which it is set.

   ♦   Programs are available to set, change, and turn off the MEMORY WAIT command . See "MEMORY_ON/MEMORY_OFF" on page 219 for details.

signal

Description	*Optional.* Specifies a number representing a condition for the FAULT.

Options

    0 Fault

    1 KILL

    2 Stop Binding

    3 Should Not Occur

    4 SQL WHENEVER

    5 SQL BIND

    6 Variable Undefined (on SQL BIND)

MEMORY *table-id*

The MEMORY *table-id* command specifies a MANTIS control block to display. The current contents of the specified control block displays to the terminal.

During the display, press ENTER to continue paging, or press any other PF/PA function key to stop the display.

MEMORY "*table-id* [,*offset*] [,*length*]"

---

table-id

Description   *Required.* Specifies a MANTIS control block to display.

Options   TWA   Displays the Transaction Work Area

PWA   Displays the Program Work Area

VWA   Displays the Vocabulary Work Area

DWA   Displays the Data Work Area

LTI   Displays the Logical Terminal Interface Control Block

DOSTACK   Displays the External DO Stack

PCHN   Displays the Local Program Pool

SHAR   Displays the Shared Pool Area

LMAP   Displays the CSOPLMAP—Load Module Map

CUST   Displays the CSOPCUST—Customization Macro Table

GLBL   Displays the CSOPGLBL—Global Area

A,address,length   Indicates that you are using an address, instead of an offset table name

---

offset

Description	*Optional.* Specifies offset from top, offset + offset format or address (in hexadecimal)
Default	X'100' for TWA
	zero for all others

---

length

Description	*Optional.* Length for display (in hexadecimal)
Default	A X'04'
	LMAP (approximate size displayed)
	CUST (approximate size displayed)
	end of the table for all others

General considerations

◆ Conversational mode is forced for the current user. Conversational mode is used until the current user is signed off.

◆ Normally, this form is used when instructed by a Cincom support representative. The contents are subject to change.

Examples

```
MEMORY"TWA,430,C0"  - TWA from offset X'430', length X'C0'
MEMORY"PWA,,1F0"    - PWA from top (default), length X'1F0'
MEMORY"DWA,2A0"     - DWA from offset X'2A0' to end of DWA (default)
MEMORY"VWA,1F8,80"  - VWA from offset X'1F8', length X'80'
MEMORY"SHAR,,40"    - each CSOPSHRP(s) from top (default), length X'40'
MEMORY"LTI,,10"     - each LTI storage(s), from top (default), length X'10'
MEMORY"A,12EF0,100" - memory contents at address X'12EF0', length X'100'
MEMORY"A,12AB0+E8"  - fullword at address X'12AB0' + X'E8', length X'04'
MEMORY"CUST"        - CSOPCUST from top (default), length X'240' (default)
```

MEMORY SHOW variable

The MEMORY SHOW variable command displays the userword number, 32-bit address, and DWA contents for the specified variable (in hexadecimal values).

MEMORY SHOW *variable*

SHOW

Description   *Required.* Displays a variable value, userword number, and address in hexadecimal notation.

---

variable

Description   *Required.* Specifies any valid currently existing MANTIS variable.

Examples

♦ Displayed values are all in hexadecimal

```
SMALL X
X=25
MEMORY SHOW X
0000:0001:000EE341:0442190000000000000000000000000000000000
  00000000
000000000000000000
```

Explanation

```
     ┌───────── Two bytes specify the userword number (0 to 2047)
     │  ┌────── Two bytes specify the offset into the DWA
     │  │   ┌────── Four bytes specify 31-bit memory address of variable
     │  │   │  ┌──── One byte specifies type of variable*
     │  │   │  │ ┌── One byte '4' plus length of variable (2)
     │  │   │  │ │    ┌── Contents of variable (one byte) value 25 (X'19')
     │  │   │  │ │    │  ┌── Remainder of 38-byte display of DWA
     ▼  ▼   ▼  ▼ ▼    ▼
    ____ ____ _____ __ __
    0000:0001:000EE341:044219000000000000000000000000000000000000000000000000000000
    00000000
```

Refer to outside sources (for example, Principles of Operations) for a description of how floating point numbers are stored.

The table on page lists the types of variables.

♦ Displayed values are all in hexadecimal

```
TEXT ABC        (defaults to length of 16)
ABC="HELLO WORLD"
MEMORY SHOW ABC
0001:0006:000EE346:1001110BC8C5D3D3D640E6D6D9D3C4000000000000
   0000
000000000000000000000000000
```

Explanation

```
               Two bytes specify the userword number (0 to 2047)
                 Two bytes specify the offset into the DWA
                   Four bytes specify 31-bit memory address of variable
                     One byte specifies type of variable*
                       One byte specifies number of occurrences (if TEXT)
                         One byte specifies total length plus one byte for
                            the attribute (16 length + 1 = 17 (X'11'))
                           One byte CURRENT length (0B = 11 characters)
                             Actual contents (in hexidecimal of
                                variable (HELLO WORLD)
                               Remainder of 36-byte
                                   display of DWA

0001:0006:000EE346:1001110BC8C5D3D3D640E6D6D9D3C40000000000000000000000000000000000
000000000
```

General consideration

For TEXT, DBCS, and numeric vectors, the 2 bytes following the type of variable indicator are the rows and columns (numeric), or number of occurrences and maximum string size + 1 (TEXT/DBCS). Each TEXT/DBCS variable value is preceded by the current length of the string (in bytes).

> **NOTE**
>
> When running pseudoconversational, the variable address may not match that of the MEMORY 'DWA' address because control blocks are relocated during roll-ins after terminal I/O.

The following table lists the types of variables:

Value	Type of variable
00	DBCS variable
0101	INTERFACE symbolic name
0102	External program
02	DBCS vector (array with subscripts)
04	SMALL variable
06	SMALL vector (array with subscripts)
08	BIG variable
0A	BIG vector (array with subscripts)
10	TEXT variable
12	TEXT vector (array with subscripts)
20	SCREEN symbolic name
40	FILE/ACCESS/TOTAL/VIEW symbolic name (displays 3 bytes—40010A)
40	PROGRAM (EXTERNAL DO) symbolic name (displays 3 bytes—40010B)
80	ENTRY Name

Starting MANTIS background tasks

You can use the PERFORM statement to start a MANTIS program as a background task. This format of the PERFORM statement applies to CICS teleprocessing monitors only. (Refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002, for syntax and usage information for the PERFORM statement.)

MASTER:SIGN_ON modifications

The MANTIS user name, password, and program name are received in NAME, CLEARANCE, and PARAMETER. PARAMETER can also optionally hold a text string passed with the program name. You can parse out PARAMETER looking for semicolons (;) to separate the program name and other parameters passed.

In the MASTER:SIGN_ON program, you can check for TERMINAL=BACK$MAN, and if true, a background task is starting to run. You can examine the user name, password, and program, and decide whether the background program should run. You can change the user name and password, and/or program name and parameters if necessary. This gives you added flexibility and control over programs running in MANTIS and specifically, running in background mode.

When the background task terminates, control passes to the user's facility program. If the facility program does any terminal I/O, the error message TBN - INVALID TERMINAL REQUEST STATEMENT is written to the CSOL journal file and the MANTIS task terminates abnormally.

Stopping a background task

To stop a background task, do one of the following steps:

♦ CHAIN to MASTER:TERMINATE.

♦ Sign on to a user with MASTER:TERMINATE as the facility program.

♦ Modify the user's facility program to chain to MASTER:TERMINATE if TERMINAL="BACK$MAN".

Viewing the background task log

Cincom supplies a utility called Display CSOL File (see "Display CSOL File" on page 191) on the MANTIS Utility Selection menu that you can use to view the background task log.

MANTIS background task log file (CSOL)

To capture information about the background task (start, error, end), set up an ESDS VSAM file. The ESDS file must be a variable-length file with a record length of 512 bytes. If this file is not present, your background task runs, but abends on completion or error conditions. The default name of this file is CSOL. If CSOL is unacceptable for a DD name (CICS file name), you can define another name by using the Customization Macro, C$OPCUST. The format of the data written to the ESDS file is as follows:

Fieldname	Size	Description
RECORDTYPE	1 char	0=Background data
PROGRAMID	49 char	Library program ID
USER-ID	16 char	User ID in PERFORM call
USERINVK	16 char	Invoking user ID
PGMINVK	49 char	Invoking program
TERMINVK	8 char	Invoking terminal ID
TASKID	4 packed	Task ID
DATESP	7 char	Data stamp (*YYYYDDD*)
TIMESP	6 char	Time stamp (*HHMMSS*)
FUNCT	50 char	Function/start-end-error
STATEMENT	5 char	Statement no. in program
FILLER	1 char	(If error display)
ERRMESSG	254 char	Error message (display)

You can empty this file by deleting it and then redefining it. Use IDCAMS to perform this step.

Batch Dialog Facility extended functionality

The Batch Dialog Facility is a command-driven interface that allows you to run some of the Program Design Facility (PDF) functions in a batch environment. This section describes the functions available to the Master User. For complete information on the Batch Dialog Facility, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

Programmers can initiate the batch Dialog Facility by defining an input stream that specifies:

♦   Execution JCL

♦   Environment specifications for the batch job

♦   Option 1 of the MANTIS Facility Selection menu (Run a Program by Name)

♦   The Batch Dialog Facility run statement (CONTROL:BATCH_DIALOG)

♦   Function statements and their options

As the Master User, you can additionally specify a user name in the Batch Dialog Facility, by including the USER parameter in the batch input stream.

NOTE	Your batch job must sign on as MASTER.

$$\text{USER} = \left\{ \begin{array}{l} \textbf{\textit{username}} \\ \textbf{*} \end{array} \right\}$$

username

    Description   Specifies the name of the user as defined on the system.

*

    Description   Specifies all users defined on the system.

    General considerations

- ♦ A USER= parameter applies to all users or one user. To specify multiple users, but not all users, enter a USER= statement for each user and include the appropriate functions for each user.

- ♦ You cannot use the asterisk (*) to purge all entities (programs). You must enter each program name to be purged.

3

MANTIS utilities

The utilities available from the MANTIS Utilities option (number 12) on the Master User Facility Selection Menu (illustrated on page) enable you to establish system security; maintain system defaults, records, and files; and set external file names.

When you select the MANTIS Utilities option, the MANTIS Utility Selection Menu appears, as shown in the following screen:

```
UTILMENU01          MANTIS UTILITY SELECTION MENU            YYYY/MM/DD
                                                             HH:MM:SS

 Please select one of the menu items below.

 ___    Authorize MANTIS/Options  ... 1   Reorg ETRG File  ............ 13
        Installation Check ........ 2   Clear Code Maps  ............ 14
        Set External File Names  .... 3   Display File Codes  ........ 15
        Add EEPR Records - All Users  4   Display File Map  .......... 16
        Set User Options - All Users. 5   Display User Map  .......... 17
        MANTIS Messages Facility  ... 6   Display User Codes  ........ 18
        Display Terminal Counts  .... 7   Display Program Statistics . 19
        MANTIS Code Patch Utility  .. 8   HPO Check All Bound Programs. 20
        Purge All Extraneous EEPR  .. 9   Shared Pool Entity Statistics 21
        Cleanup CREF File  .......... 10  Display CSOL File  .......... 22
        Cleanup ELOG File  .......... 11  Customization Facility  ..... 23
        Cleanup ETRG File  .......... 12


 F3=EXIT    F12=CANCEL    F24=LOGOFF
```

Overview of MANTIS utilities

The following table provides a quick reference for the MANTIS utilities on the MANTIS Utility Selection Menu. Additional utilities that are not on the menu are described after the table.

Option	Description	Refer to
Authorize MANTIS/Options	Lets you enter site-specific information about CPUs, features, and MANTIS use.	"Authorize MANTIS/Options Utility" on page 611.
Installation Check	Distributes new entity views to defined users, removes obsolete entities, and updates error messages.	"Installation Check" on page 135.
Set External File Names	Modifies the names of external files, as defined to the TP Monitor or in the JCL.	"Set External File Names" on page 136.
Add EEPR Records - All Users	Creates Extended Entity Profile Records (EEPR) for all programs on the cluster.	"Add EEPR Records - All Users" on page 138.
Set User Options - All Users	Sets CEF default characters and log options for all users.	"Set User Options - All Users" on page 139.
MANTIS Messages Facility	Edits the message text of MANTIS messages.	"MANTIS Messages Facility" on page 141.
Display Terminal Counts	Displays the maximum number of allowed terminals, as well as the number of terminals currently signed on to MANTIS.	See "Authorize MANTIS/Options Utility" on page 611 for information on limited terms of support.
MANTIS Code Patch Utility	Applies code patches to Master or Control users as needed.	"MANTIS Code Patch Utility (MCPU)" on page 561.
Purge All Extraneous EEPR	Deletes all extraneous EEPR records for each user on the MANTIS cluster.	"Purge All Extraneous EEPR" on page 163.
Cleanup CREF File	Deletes all component cross-reference records for a user, or for all users on the MANTIS cluster.	"Cleanup CREF file" on page 164.
Cleanup ELOG File	Deletes all log records for a user, or for all users on the MANTIS cluster.	"Cleanup ELOG file" on page 165.

Option	Description	Refer to
Cleanup ETRG File	Deletes all trigger records for a user, or for all users on the MANTIS cluster.	"Cleanup ETRG file" on page 166.
Reorganize ETRG File	Reorganizes the trigger file for a specified user by resequencing the records, beginning at one.	"Reorganize ETRG file" on page 167.
Clear Code Maps	Rebuilds a user file code map or the user code map.	"Clear Code Maps" on page 168.
Display File Codes	Displays the assigned file codes for MASTER.	"Display File Codes" on page 169.
Display File Map	Displays a map showing the assigned file codes for MASTER.	"Display File Map" on page 170.
Display User Map	Displays a map showing the assigned user codes in your cluster.	"Display User Map" on page 171.
Display User Codes	Displays the assigned user codes in your cluster.	"Display User Codes" on page 172.
Display Program Statistics	Displays statistics on MANTIS programs.	"Display Program Statistics" on page 173.
HPO Check All Bound Programs	Checks the consistency of all bound programs in a user's library.	"HPO check all bound programs" on page 177.
Shared Pool Entity Statistics	Gathers and reports statistics on usage of programs and DL/I call profiles in the Shared Pool. You can also gather and report statistics on a limited number of nonshared programs and DL/I call profiles.	"Shared Pool Entity Statistics Facility" on page 177.
Display CSOL File	Displays the contents of the background task log file, indicating the success or failure of MANTIS background tasks.	"Display CSOL File" on page 191.
MANTIS Customization Facility	Displays MANTIS configuration options and allows certain options to be changed dynamically.	"MANTIS Customization Facility" on page 193.

Additional MANTIS utilities (not on the Utility Selection Menu) enable you to:

♦   Split the SETPRAY Cluster into multiple physical files. See "Split SETPRAY Utility" on page 196 for details.

♦   Use the interfaces for switching UCTRAN in the current CICS terminal entry to allow MANTIS to control translation of uppercase/lowercase characters. See "UCTRAN interfaces" on page 207 for details.

♦   Convert DL/I Segment Layouts to interfaces for use with the Enhanced DL/I Access Facility. See "Converting DL/I Segment Layouts to interfaces" on page 210 for details.

♦   Run DEBUG and TRACE for RDM in MANTIS. See "Running DEBUG and TRACE for RDM in MANTIS" on page 218 for details.

♦   Run a program that executes a MEMORY WAIT ON or OFF command. See "MEMORY_ON/MEMORY_OFF" on page 219 for details.

♦   Run some of the Program Design Facility functions in a batch environment, using the Batch Dialog Facility (BDF). See "Batch Dialog Facility" on page 129 for more information.

♦   Obtain the transaction ID under which MANTIS is currently running.

Authorize MANTIS/Options

The Authorize MANTIS Options utility allows you to set start/stop dates for MANTIS. It also allows you to set which options your installation can use and how long your installation can use them. The information that you enter is determined by your contract with Cincom. For detailed instructions on using this utility, see "Authorize MANTIS/Options Utility" on page 561.

Installation Check

The Installation Check utility prepares your MANTIS cluster for use. It distributes new entity views (such as files and programs) to the defined users, removes obsolete entities (used in prior releases of MANTIS), and updates error messages. Run this utility (online or in batch mode) after installing or reinstalling MANTIS.

NOTE

Although still available as a utility option, this program is run automatically as part of the Batch Dialog Facility install process.

Set External File Names

The Set External File Names utility lets you change the file names (as defined to the TP Monitor or in the JCL) that MANTIS uses when accessing external files. For example, if ELOG was already defined in the CICS file definitions as a log file for one of your applications, you could have defined the MANTIS log file with a different name, such as MLOG. The Set External File Names utility lets you change the external name so that MANTIS knows the file was changed from ELOG to MLOG. All views containing a reference to ELOG are changed. This functionality is also available as part of the Batch Dialog Facility install process.

In addition to changing MANTIS system files, you can also change external names for any user defined to your system. You can develop an application under one system, with one set of file names. You can then move the application to another system and change the file names without signing on to that user and entering the External File View Design Facility.

When you select the Set External File Names option, the following screen displays:

```
 UTY002                External File View Name Update            YYYY/06/DD
                                                                  HH:MM:SS


 Please select one of the menu options below.



           __   Set External Names For System Files  ..... 1
                Set External Names For Specific User  .... 2

                Specific User Name  ... :                    :




 ENTER=PROCESS SELECTION   CANCEL=TERMINATE
```

Choosing option 1 (as indicated in the example) displays the following
screen:

```
                  External File View External Name Update

   Access Name        File Type          External Name          User

CSIADB_KEYS          INDEXED            IADB                    CONTROL
MIGRATE              DIRECT             MIGRATE                 CONTROL
SHRP_LIST_PROF       INDEXED            IADB                    CONTROL
SHRP_NAME_PROF       INDEXED            IADB                    CONTROL
BINDING_CARDS        SEQUENTIAL         XRBIND                  CSI_XREF
ELEMENT_XREF         INDEXED            XRPBIND                 CSI_XREF
ENTITY_XREF          INDEXED            XRPBIND                 CSI_XREF
ADOV_EDPR            INDEXED            EDPR                    VPF
ADOV_EDPR_KEYS       INDEXED            EDPR                    VPF
ADOV_EEPR            INDEXED            EEPR                    VPF
ADOV_EEPR_KEYS       INDEXED            EEPR                    VPF
ADOV_EHLP            INDEXED            EHLP                    VPF
ADOV_EHLP_KEYS       INDEXED            EHLP                    VPF
ADOV_ELOG            INDEXED            ELOG                    VPF
ADOV_ELOG_KEYS       INDEXED            ELOG                    VPF
ADOV_EREF            INDEXED            EREF                    VPF
ADOV_EREF_KEYS       INDEXED            EREF                    VPF
ADOV_ETRG            INDEXED            ETRG                    VPF
ADOV_ETRG_KEYS       INDEXED            ETRG                    VPF
ENTER=Process Update    PF8=Forward     CANCEL=Terminate
```

You can then modify the external name field.
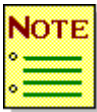
| NOTE | Your screen may display different external file names if they have already been changed. |

Add EEPR Records - All Users

After a new EEPR file is defined, the Add EEPR All Users utility creates Extended Entity Profile Records (EEPR) for all users.

You need to run this utility only once for each MANTIS cluster because the MANTIS design facilities automatically maintain EEPR and information. The program name list in the Program Design Facility is built from the EEPR. Therefore, if this utility is not run, it appears as if no programs exist for the user, even though they may. The EEPR is required if you plan to transfer a program, with or without history.

This utility is run as part of the Batch Dialog Facility install process. The following screen illustration shows sample output from running this utility:

```
CEF_REPORTS:     PROCESSED      0 PROGRAMS, INSERTED      0 PROFILES

EXAMPLES:        PROCESSED     46 PROGRAMS, INSERTED     46 PROFILES

LEDGER:          PROCESSED     10 PROGRAMS, INSERTED     10 PROFILES

MASTER:          PROCESSED     19 PROGRAMS, INSERTED     19 PROFILES
```

To process the next user, press ENTER after each message. To terminate the program before it has processed all users, enter KILL in the bottom right corner of the screen.

Set User Options - All Users

The Set User Option - All Users utility lets you change the Log Option, CEF Character, and the Language Code for all users. Any changes you make will be updated on every user. Should you need to change only one user's options, use the User Profiles program (option 7 from the Master User's Facility Selection menu).

NOTE

The functionality to set user options for all users is also available in the Batch Dialog Facility install process.

Setting the Log Option

The Log Option indicates that you want to maintain a log of program design functions for each user. The log tracks such things as copying or renaming a program, binding, crefing, composing, decomposing, and replacing a program. If Log Option is set to Yes, logging will occur on that user. If Log Option is set to No, no logging will occur. MANTIS is shipped with a default of No. If you do not specify a Y or N value, no updates are done.

Specifying the CEF Character

The CEF Character identifies a source program as part of Component Engineering. A *source program* contains the basic code of the program and COMPONENT statements, which when composed, create an executable program. The source program and executable program may have the same name.

To distinguish between source and executable programs, a suffix (the CEF character) is added to the source program's name. The standard CEF character is the at sign (@). You can specify any nonalphabetic special character *except* the vertical bar (|), asterisk (*), colon (:), decimal tab (¬), forward slash (/), apostrophe ('), equal sign (=) or quotation mark ("). It is recommended that you use the at sign (@). If you do not specify a CEF character, no updates are performed.

For more information on Component Engineering and the CEF character, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

Specifying a Language Code

The Language Code is a 3-character code from the Cincom Native Language Support table (see "MANTIS Messages Facility" on page 141). It is used within the CONTROL users' screens, prompters, (error) messages, dialog records, and action records to create a language set, so MANTIS can be customized to display program design facilities and give feed-back messages in different languages.

Pressing PF4 at the Update User Options screen displays a list of the current valid languages and their 3-character code. You can specify any valid language code, but the language set (screens, etc.) must exist, or the program will not allow you to specify that code. (If you could specify a language code when the language set did not exist, MANTIS would not be able to find the screens, messages, etc. to properly run the design facilities.) If you do not specify a language code, no updates will be performed.

When you select the Set User Option - All Users utility, the following screen displays:

```
UTILSR1                    MANTIS Update User Options      YYYY/MM/DD HH:MM:SS

To change the log option, CEF character, or language code, indicate the new
value in the fields below.  All users will be updated with the new value(s).

The Log Option (Y/N) indicates if a log is to be kept of all Program Design Facility
actions by user.

The CEF character is a nonalphabetic special character excluding blank and
the special characters |*:¬/?'+? ('@' is recommended).

The Language Code is a three character code from the Cincom Native Language Support
table.  To change the language code, the language set (screens, prompters, messages)
must exist.

                    Log Option . . . . . . . . _
                    CEF Character . . . . . _
                    Language Code . . . . . ___


F1=HELP  F3=EXIT  F4=LANGUAGES  F5=REFRESH  F6=EXECUTE  F7=CONFIRM  F8=SKIP
F12=CANCEL  F15=MENU  F24=LOGOFF
```

MANTIS Messages Facility

The MANTIS Messages Facility lets you list and change messages, search message text for a string of characters, create new message language sets, compare messages from different language sets, delete message language sets, print a language message set, and display the valid language codes. This facility helps you create new language message sets and translate message text to the new language.
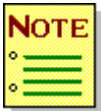
> **NOTE**
>
> Only the user signed on as MASTER (the Master User) can run the MANTIS Messages Facility.

MANTIS Messages Facility Menu

Select the MANTIS Messages Facility from the Master User's Utility Selection Menu (see illustration on page 131), or by running CONTROL:MESSAGES_MENU. When you select the facility, the following menu displays:

```
MSGMENU01              MANTIS Message Facility Menu          YYYY/MM/DD
                                                             HH:MM:SS
Please select one of the menu options below


___   Create or update messages . . 1  Print language set . . . . 5
      Search messages for string . 2  Delete language set  . . . 6
      Compare/translate messages . 3  Copy language set/message  7
      Display languages . . . . . . 4


Function Options                           Process Statistics
  Current language code  . . . ENU         Processed  . .
  Start list/copy message ID . _____      Inserted . . .
  New language code  . . . . . ___         Deleted . . .
  Replace if found?  . . . . . N           Replaced . . .
  List replaced/skipped? . . . N           Skipped  . . .
  Ignore case for search?  . . N
  Search string  . . _____


 F1=HELP  F3=EXIT  F5=REFRESH  F12=CANCEL  F15=MENU  F24=LOGOFF
```

Choose an option by entering a number in the selection field. To terminate the facility, press PF3, PF12, or the designated CANCEL key. Refresh the screen display by pressing PF5. You can return to the MANTIS Facility Selection Menu by pressing PF15, or exit MANTIS completely by pressing PF24.

Create or update messages

Description	Lists the messages by language and message code in alphabetical (message ID) order.
Consideration	Enter a message ID to start the list at a different point. The message ID can be a partial ID, such as FAC2 for facility messages starting at FAC2AA. Only the first six characters of the message ID are needed; the seventh character is a severity level code and does not identify the message.

Search messages for string

Description	Displays a listing of messages (in the current language code) that contain the search character string. You can update, insert, and delete the contents of the message text at the listing screen. Enter the search string in the field provided in the Function Options. A Search field is also provided on the list screen containing the search string. You can change the search string and refresh the display to list messages containing the new search string. Also in the Function Options is the field Ignore case for search.
Default	N
Options	Y In the Ignore case for search field, finds all occurrences of the string regardless of the case (upper/lower) of the message
	N Finds only occurrences where the case matches exactly as entered
Consideration	In the list screen, you can toggle between case ignored and case sensitive by pressing PF7.

Compare/translate messages

Description	You modify a message while comparing it to the same message ID from another language code set.
Consideration	You can view the original language message text while translating text in the new language set.

Display languages

Description   To display the valid 3-character language codes, select this option from the MANTIS Messages Facility Menu (illustrated in "MANTIS Messages Facility Menu" on page 141). The following screens display:

```
VALIDLANG01              Valid Language Codes       YYYY/MM/DD HH:MM:SS

AFR - AFRIKAANS                      FIN - FINNISH
ARA - ARABIC                         FRA - FRENCH
BEL - BYELORUSSIAN                   FRB - BELGIAN FRENCH
BGR - BULGARIAN                      FRC - CANADIAN FRENCH
CAT - CATALAN                        FRS - SWISS FRENCH
CHT - TRADITIONAL CHINESE            GAE - IRISH GAELIC
CHS - SIMPLIFIED CHINESE             HEB - HEBREW
CSY - CZECH                          HRV - CROATION
DAN - DANISH                         HUN - HUNGARIAN
DEU - GERMAN                         ISL - ICELANDIC
DES - SWISS GERMAN                   ITA - ITALIAN
ELL - GREEK                          ITS - SWISS ITALIAN
ENA - AUSTRALIAN ENGLISH             JPN - JAPANESE
ENG - UK ENGLISH                     KOR - KOREAN
ENU - US ENGLISH                     MKD - MACEDONIAN
ENP - ENGLISH UPPERCASE              NLD - DUTCH
ESL - SPANISH LATIN AMERICAN         NLB - BELGIAN DUTCH
ESP - SPANISH                        NON - NORWEGIAN NYNORSK



F3=END  F12=CANCEL   ENTER=CONTINUE
FACF03I:More records follow
```

```
VALIDLANG01              Valid Language Codes       YYYY/MM/DD HH:MM:SS

NOR - NORWEGIAN BOKMAL               U02 - USER-DEFINED 2
PLK - POLISH                         U03 - USER-DEFINED 3
PTB - BRAZILIAN PORTUGUESE           U04 - USER-DEFINED 4
PTG - PORTUGUESE
RMS - RHAETO-ROMANIC
ROM - ROMANIAN
RUS - RUSSIAN
SKY - SLOVAKIAN
SLO - SLOVENIAN
SQI - ALBANIAN
SRB - SERBIAN (CYRILLIC)
SRL - SERBIAN (LATIN)
SVE - SWEDISH
THA - THAI
TRK - TURKISH
UKR - UKRANIAN
URD - URDU
U01 - USER-DEFINED 1



F3=END  F12=CANCEL   ENTER=CONTINUE
FACF09I:End of file
```

Print language set

> **Description**   Prints the current language message set.
>
> **Consideration** The output goes to the printer designated in the MASTER user.

Delete language set

> **Restriction**   If you try to delete the language code message set that is your signed-on language set (specified in the MANTIS Customization Macro and/or the signed-on user's language), you will receive a message saying you cannot delete the signed-on language code message set.
>
> **Description**   Deletes the entire current language code message set.
>
> **Consideration** Confirm this action by pressing PF6 to execute. Any other function key cancels the delete operation.

Copy language set/message

> **Description**   Create a new language code set of messages.
>
> **Considerations**

♦ The operator enters a new language code, and selects whether to skip or replace any existing messages (in the new language code set). Also, the operator selects whether to display any replaced or skipped existing messages. The Process Statistics section on the Messages Facility Menu (shown on page 141) lists a final count of processed messages.

♦ You can copy only one message, or a set of messages, to another language code set. In addition to entering the current language code and the new language code, you can enter a 6-character message ID in the Start list/copy message ID field. The new language code set copies only that message. You can also enter a partial message ID with a wildcard (*) to copy a subset of messages. The wildcard must be the last character. For example, FAC* copies all messages beginning with FAC to the new language code set.

Create or update messages

To create or update messages, select this option from the MANTIS Messages Facility Menu (illustrated in "MANTIS Messages Facility Menu" on page 141). The following screen displays:

```
UTY005          MANTIS Messages List Facility  ( ENU )      YYYY/MM/DD HH:MM:SS


--ID--- ---------------------------Message Text-----------------------------
AUHMTRE Maximum terminal limit - ##### - has been reached
AUHSERF Security file error - terminating MANTIS
BDFAAII Authorization for CPU ID '###############' added
BDFAAUI Authorization for CPU ID '###############' updated
BDFABIF You must run BDF Install Function - see Startup and Configuration Guide
BDFACII BDF Installation - Running CPU ID is '################'
BDFACNF Running CPU ID '################' authorization does not exist
BDFAFEE File Error '########' Reason '######################################'
BDFANCF No CPU ID supplied - job canceled
BDFANMF No MANTIS Ending Date supplied - job canceled
BDFANNF No MANTIS Starting Date supplied - job canceled
BDFANPF No Authorization Password supplied - job canceled
BDFANRI -Step Not Required-
BDFAPSF Authorization Password '########' invalid - job canceled
BDFARCF CPU ID '################' does not match Running CPU ID - job canceled
BDFARNW Error '########' while updating information to the BDF Install Record
BDFASIE Error '########' while inserting CPUID '################' Authorization
BDFASNI * Not Completed *
BDFASUE Error '########' while updating CPUID '###############' Authorization
FACF03I:More records follow
F1=HELP F3=EXIT F5=REFRESH F6=EXECUTE F8=FWD F10=LEFT F11=RIGHT F13=LANGUAGES
```

Language position (at top of screen in parentheses)

Description   *Required*. Contains the current language code.

Format   3-character language code.

Consideration   Use this field for repositioning the list to another language code set. Blanking out the field redisplays the current language code (as set at the main menu).

ID

Description	*Required.* This field uniquely identifies the message.
Format	7-character message ID field (3-character subsystem ID, 3-character message code, 1-character severity level).

Considerations

♦ The first three characters identify the subsystem ID: FAC for a FACILITY message, NUC for a NUCLEUS message, and so on. The next three characters uniquely identify the message within the subsystem. The last character indicates the level of severity for the message (for example, I for Information, W for Warning, C for Confirmation, A for Action Required (press a key), E for Error, and F for a Fatal Error).

♦ You can use the first field to reposition the list to a new message. You can enter a partial ID for repositioning. If the main facility menu supplies a message ID, the listing will start from that message (or closest to it for a partial ID or nonexisting message).

Message Text

Description	*Required.* Contains the text of the message.
Format	71-character Message Text field.

Some messages may have text substitution characters embedded within the message. The Master User defines the displayable character for character substitution (# is default) in the Customization Macro. It is important that while translating or modifying the message text that you *do not* remove or change any of the substitution characters. Doing so may cause unexpected results when MANTIS attempts to use the message.

The following fields display when the user scrolls right (PF11):

Length

    Description   *Display*. Specifies the length of the field. The subsystem HDG is for heading messages. These messages are used when you dynamically build screens. Although you use the screen facility to translate the screens, the HDG message is the dynamic text on some screens.

    Considerations

- The length of some of the HDG messages is restricted because the dynamic screen text may be limited in length when displayed. If the HDG field is limited, a length will display in the Length field.

- If you change the message text and exceed the length specified, the text truncates.

Release Level

    Description   *Display*. Contains the MANTIS Facilities release level when the message was added or modified.

    Format   4-character release level.

    Consideration This field automatically updates when you add or update a message. The current facilities service level is retrieved from the FACREL message.

Date Changed

    Description   *Display*. Contains the date when the message was last changed. Used for reference during upgrades. This field automatically updates when a message is updated or added.

    Format   *YYYY*/*MM*/*DD*

Time Changed

    Description   *Display*. Contains the time when the message was last changed. Used for reference during upgrades. This field automatically updates when updating or adding a message.

    Format   *HH*:*MM*:*SS*

Language

Description   *Display*. Specifies the language code of the message.

Format   3-character language code.

General considerations for the MANTIS messages list screen

♦   The fields on this screen repeat to fill all terminal sizes.

♦   Press PF8 to scroll forward, or overtype the first message ID and/or
   Language and press ENTER to reposition to that message (or closest
   to it if entering a partial message ID). Blanking out the message ID
   redisplays the first message again.

♦   Blanking out the language code redisplays the messages of the
   current language code (set at the facility main menu).

♦   PF keys are:

Key	Description
PF1	Displays help prompters describing the list screen. If you are searching, additional information about searching displays.
PF3	Exits from the list screen.
PF5	Refreshes the listing display.
PF6	Executes any changes made (inserts, updates, deletes).
PF7	Switches between "case ignored" and "case sensitive" while searching for a string in the message text.
PF8	Pages the display forward.
PF10, PF11	Scrolls left/right to display the complete screen.
PF12	Cancels from the list screen.
PF13	Displays the valid languages screen. See the Display Languages screen illustrations on pages 141 and 143.
PF15	Returns to the Facilities Selection menu.
PF24	Exits MANTIS.

Updating messages

To update messages, overtype the message text and press PF6 to execute.

NOTE

When updating messages, *do not* remove or change any of the substitution characters.

Inserting messages

To add new messages:

1. Overtype any of the existing message IDs with a new ID. Change the language (in the language position field) if you need a different language code.

2. Enter the text of the message.

3. Press PF6 to execute.

If a message ID already exists, overtyping updates the existing message. If there is no existing message ID, overtyping the field inserts the new ID.

NOTE

Unless the language code is one of the four user-definable language codes (U01, U02, U03, or U04), the MASTER user should insert a new message only if so instructed by Cincom Support. If you choose a new message ID, the message may be overwritten when you upgrade to the next release.

Deleting messages

To delete messages:

1. Blank out (erase to end of field) the text of the message.

2. Press PF6 to execute. If the message ID exists, a DELETED status displays. If the message ID does not exist, a NOTFOUND status displays.

NOTE

No confirmation message displays when deleting individual messages.

NOTE

The MASTER user can only delete messages from the four user-definable language codes: U01, U02, U03, and U04. If the MASTER user attempts to delete a message from any language other than the four user-definable languages, INVALID status displays along with a message indicating that you cannot delete from the *xxx* language code set.

Action completion statuses

Completion statuses from actions display between the message ID and the message text. The message text temporarily shifts to the right.

Statuses are:

♦ INSERTED, UPDATED, and DELETED for successful completion of the action.

♦ NOTFOUND if you overtype a message ID with the ID of a message that does not exist, and then blank out the message text (to delete the message).

♦ INVALID when the MASTER user attempts to insert into, or delete from, any language code set other than the four user-definable languages: U01, U02, U03, and U04.

Pressing ENTER removes the status and refreshes the display.

Search messages for string

To search for text within messages, select this option from the MANTIS Messages Facility Menu (illustrated in "MANTIS Messages Facility Menu" on page 141), enter a string (to search for) in the Function Options Search String field, and press ENTER. The search is for all messages in the current language code for the text string.

The list screen displays messages containing the string. The insert, update, and delete functions are used for messages matching the search.

Paging forward works as described previously in the list messages function.

A Search field displays to allow you to change the search string at anytime. Enter a new string to search for, and press ENTER to refresh the display. This action displays all messages with text containing the new search string.

If you change the text used to qualify a message for this list and press PF5 to refresh, that message no longer displays.

The field Ignore case for search? displays on the main menu. Setting this field to Y directs the search to find all occurrences of the search string regardless of the case (upper/lower) of the text in the message. The default setting is N. You can toggle between "case ignored" and "case sensitive" by pressing PF7.

While in the listing, if Ignore Case was Y, you will see "Case ignored" appear on the ----Message Text---- header line, as shown in the following screen:

```
   MSGLIST01     MANTIS Messages List Facility ( ENU / DAN )   YYYY/MM/DD HH:MM:SS
  Search: prompter                                            :
 --ID--- ---------------------Message Text--------------- Case ignored
 EXPE27E PROMPTER line limit exceeded
 EXPE28E PROMPTER line count exceeded the number of lines specified
 HDG017I PROMPTERS
 NUCCNHE Cannot find the specified prompter
 NUCHCEE Prompter continuation error
 NUCHNNE Prompter name not supplied
 PRD001E Cannot find such a prompter
 PRD004E No such prompter exists
 PRD006E This prompter already exists
 PRD007I Prompter has been printed
 SCE014E Prompter #################### does not exist in your library




 DFF09I:End of file
 1=HELP F3=EXIT F5=REFRESH F6=EXECUTE F8=FWD F10=LEFT F11=RIGHT F13=LANGUAGES
```

Compare/translate messages

To compare and translate messages, select this option from the MANTIS Messages Facility Menu (illustrated in "MANTIS Messages Facility Menu" on page 141). This option lets you translate the message text from one language set while viewing the same message from another language set.

Using the current language code for reference, you can enter a new language code (to modify), as shown in the following screen:

```
 MSGCOMP01   MANTIS Messages Compare Facility ( ENU / DAN ) YYYY/MM/DD HH:MM:SS

--ID--- --------------------Message Text--------------------------
BDFTNRE 'To Name' required for '#################' Function
BDFTNRE 'To Name' required for '##################' Function

BDFTRCI Trigger record '###########################################' created
BDFTRCI Trigger record '############################################' created

BDFTRFE Error - trigger record '#################################' not created
BDFTRFE Error - trigger record '#################################' not created

BDFVALI FUNCTION=VALIDATE - Batch Dialog job input stream validation completed
BDFVALI FUNCTION=VALIDATE - Batch Dialog job input stream validation completed

CASZDAE Delete not authorized for file ################
CASZDAE UTYLMNE:Language code 'DAN' message 'CASZDAE' not found

CASZDEC Enter y(yes) or n(no) to confirm ########## into existing ##########
CASZDEC UTYLMNE:Language code 'DAN' message 'CASZDEC' not found


FAC03I:More records follow
F1=HELP F3=EXIT F5=REFRESH F6=EXECUTE F8=FWD F10=LEFT F11=RIGHT F13=LANGUAGES
```

Reference and Change Language Position (at top of screen in parenthesis)

Description *Required.* Contains the reference (current) and change (new) language code.

Format 3-character language code.

Consideration These fields are used for repositioning the list to other language code sets. Blanking out either field redisplays the current or new language code (as set at the main menu).

ID

Description *Required.* Contains the message code.

Format 7-character message ID (3-character subsystem ID, 3-character message code, 1-character severity level).

Considerations

♦ This field uniquely identifies the message. The first three characters identify the subsystem ID, that is, FAC for a FACILITY message, NUC for a NUCLEUS message. The next three characters uniquely identify the message within the subsystem. The last character indicates the level of severity for the message (for example, I for Information, W for Warning, C for Confirmation, A for Action Required (press a key), E for Error, and F for a Fatal Error).

♦ The first field can reposition the list to a new message. You can enter a partial ID for repositioning. If a message ID was supplied at the main facility menu, the listing will start from that message (or closest to it for a partial ID or nonexisting message).

♦ In the listing, the first message ID is the reference language and the second (below the reference) is the change language. A blank line separates each reference/change set.

♦ If no message in the change set matches the reference set, a message indicating the message was not found displays in the message text. See the screen illustration on page 163.

Message Text

Description   *Required*. Specifies the text of the message.

Format   1–71 characters.

Some messages may have text substitution characters embedded within the message. The Master User defines the displayable character for character substitution (# is default). It is important while translating or modifying the message text that you *do not* remove or change any of the substitution characters. Doing so may cause unexpected results when MANTIS attempts to use the message.

The following fields display when the user scrolls right (PF11):

Length

Description   *Display*. Specifies the length of the field. The subsystem HDG is for heading messages. These are messages used when screens are dynamically built. While the screens translates using the screen facility, the dynamic text uses the HDG message to translate.

Considerations

♦   The length of some of the HDG messages is restricted because the dynamic screen text may be limited in length when displayed. If the HDG field is limited, a length will display in the Length field.

♦   If you change the message text and exceed the length specified, the text truncates.

Release Level

Description   *Display*. Contains the MANTIS Facilities Release Level (message added or modified).

Format   4-character release level.

Consideration   This field automatically updates when a message (updated or added) changes. The current facilities service level is from the FACREL message.

Date Changed

> **Description**   *Display*. Contains the date when a message was last changed. Used for reference during upgrades. This field automatically updates when a message (updated or added) changes.
>
> **Format**   *YYYY*/*MM*/*DD*

Time Changed

> **Description**   *Display*. Contains the time of the last message change. Used for reference during upgrades. This field automatically updates when a message (updated or added) changes.
>
> **Format**   *HH*:*MM*:*SS*

Language

Description   *Display*. Indicates the language code of the message.

Format   3-character language code.

General considerations

♦ The fields on this screen repeat to fill all terminal sizes.

♦ Press PF8 to scroll forward, or overtype the first message ID and/or Reference or Change Language and press ENTER to reposition to that message (or closest to it if you enter a partial message ID). Blanking out the message ID redisplays the first message again.

♦ Blanking out the language code redisplays the messages of the current language code (set at the facility main menu).

♦ PF keys are:

Key	Description
PF1	Displays help prompters describing the list screen. If you are searching, additional information about searching displays.
PF3	Exits from the list screen.
PF5	Refreshes the listing display.
PF6	Executes any changes made (inserts, updates, deletes).
PF7	Switches between case ignored and case sensitive while searching for a string in the message text.
PF8	Pages the display forward.
PF10, PF11	Scrolls left/right to display the complete screen.
PF12	Cancels from the list screen.
PF13	Displays the valid languages screen. See the Display Languages screen illustrations on page 141.
PF15	Returns to the Facilities Selection menu.
PF24	Exits MANTIS.

Updating messages

To update messages, overtype the message text and press PF6 to
execute.

NOTE

When updating messages, *do not* remove or change any of the
substitution characters.

Inserting messages

To add new messages:

1. Overtype any of the existing message IDs with a new ID. Change the
    language (in the language position field) if you need a different
    language code.

2. Enter the text of the message.

3. Press PF6 to execute.

If a message ID already exists, overtyping updates the existing message.
If there is no existing message ID, overtyping the field inserts the new ID.

NOTE

Unless the language code is one of the four user-definable language
codes (U01, U02, U03, or U04), the MASTER user should insert a new
message only if so instructed by Cincom Support. If you choose a new
message ID, the message may be overwritten when you upgrade to the
next release.

Deleting messages

To delete messages:

1. Blank out (erase to end of field) the text of the message.

2. Press PF6 to execute. If the message ID exists, a DELETED status displays. If the message ID does not exist, a NOTFOUND status displays.

NOTE

No confirmation message displays when deleting individual messages.

NOTE

The MASTER user can only delete messages from the four user-definable language codes: U01, U02, U03, and U04. If the MASTER user attempts to delete a message from any language other than the four user-definable languages, INVALID status displays along with a message indicating that you cannot delete from the *xxx* language code set.

Action completion statuses

Completion statuses from actions display between the message ID and the message text. The message text temporarily shifts to the right.

Statuses are:

♦   INSERTED, UPDATED, and DELETED for successful completion of the action.

♦   NOTFOUND if you overtype a message ID with the ID of a message that does not exist, and then blank out the message text (to delete the message).

♦   INVALID when the MASTER user attempts to insert into, or delete from, any language code set other than the four user-definable languages: U01, U02, U03, and U04.

Pressing ENTER removes the status and refreshes the display.

Print language set

To print the entire current language code message set, select this option from the MANTIS Messages Facility (illustrated in "MANTIS Messages Facility Menu" on page 141). Output is sent to the printer defined in the MASTER user.

Delete language set

To delete the entire current language code message set, select this option from the MANTIS Messages Facility (illustrated in "MANTIS Messages Facility Menu" on page 141). You receive a confirmation message to confirm the deletion.

Copy language set/message

To quickly create a new language set, and then go back and modify or translate the text of the message, select this option from the MANTIS Messages Facility (illustrated in "MANTIS Messages Facility Menu" on page 141).

To create a new language code set:

1. Select option 7.

2. Enter a new language code in the Function Options field.

3. Press ENTER. Each message from the current language code goes into the new language code set.

The Function Option 'Replace if found?' (default is No) directs the action taken for messages that already exist in the new language code:

♦ N indicates that the action skips any existing messages in the new language code (that is, no changes to the message).

♦ Y indicates that the action updates any existing message found with the release level, and message text from the language being copied.

Date and time also update to the current system date and time.

The Function Option 'List replaced/skipped?' (default is No) directs that messages already existing in the new language code set display to the screen, indicating the message codes skipped or replaced.

You can also copy only one message, or a set of messages, to another language code set. In addition to entering the current language code and the new language code, you can enter a 6-character message ID in the Start list/copy message ID field. Only that message copies to the new language code set. You can also enter a partial message ID with a wildcard character (*) to copy a subset of messages. For example, FAC* copies all the FAC messages to the new language code set.

Language restrictions by user

The following chart illustrates restrictions for the MASTER user when inserting, updating, and deleting language code sets and individual messages:

Messages	Signed-on language	Codes U01-U04	All other codes
Sets	Create Only	Create/Delete	Create/Delete
Individual	Update Only	Ins/Upd/Del	Update Only

MANTIS Code Patch Utility (MCPU)

The MANTIS Code Patch Utility (MCPU) allows the Master User to:

♦ Create, maintain, and apply patches (corrections) to MANTIS programs and other systems written in MANTIS code.

♦ View the Cincom Patch Log, which lists all patches that have been applied to Cincom programs since the current release of the product was installed.

♦ View and maintain the Production Patch Log, which lists the patches that have been applied to production programs

For detailed instructions on using the MANTIS Code Patch Utility, see

Purge All Extraneous EEPR

The Purge All Extraneous EEPR utility reads the program directory and deletes any extraneous extended entity profile records (EEPRs) for each user on the MANTIS cluster.

An EEPR exists for every MANTIS program on the MANTIS cluster. The list of programs displayed in the Program Design Facility is built by reading the EEPRs for a specified user. If you purge a program in the MANTIS Line Editor, or access an EEPR file that does not match the MANTIS cluster in the same system, an EEPR could exist for a program that does not exist. When you select a program from the directory list but that program is not loaded into the Full-Screen Editor, run the Purge All Extraneous EEPR program to remove the EEPR referring to the nonexistent program.

To discontinue the operation, you must enter KILL in the bottom right Key Simulation Field and press ENTER.

The following screen illustration shows sample output after processing four users:

```
CEF_REPORTS:    UTYPROI:Processed 0 program profiles, deleted 0 profiles

EXAMPLES:       UTYPROI:Processed 46 program profiles, deleted 0 profiles

LEDGER:         UTYPROI:Processed 10 program profiles, deleted 0 profiles

MASTER:         UTYPROI:Processed 19 program profiles, deleted 0 profiles
```
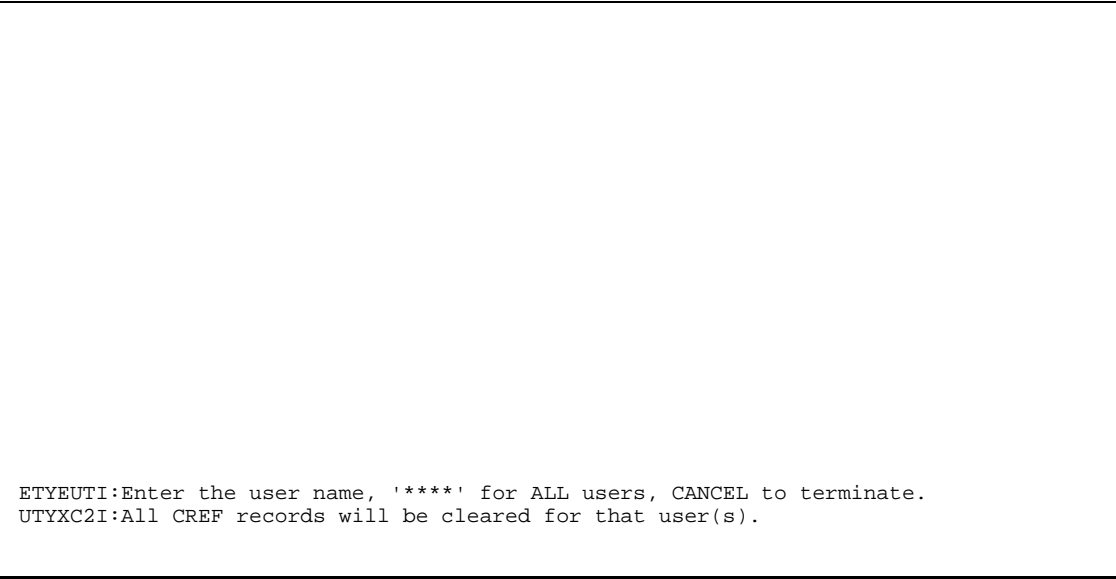
Cleanup CREF file

The Cleanup CREF File utility deletes all component cross-reference (CREF) records for a specified user, or for all users on the cluster.

The CREF command creates a component cross-reference for a source program. If you move source and/or components from one user to another, you may not want to keep component reference information on the first user. Run this program as needed when the integrity of your component reference information is questionable.

Press the CANCEL key to exit to the MANTIS Utility Selection Menu.

The following screen illustration shows program output when this option is selected:
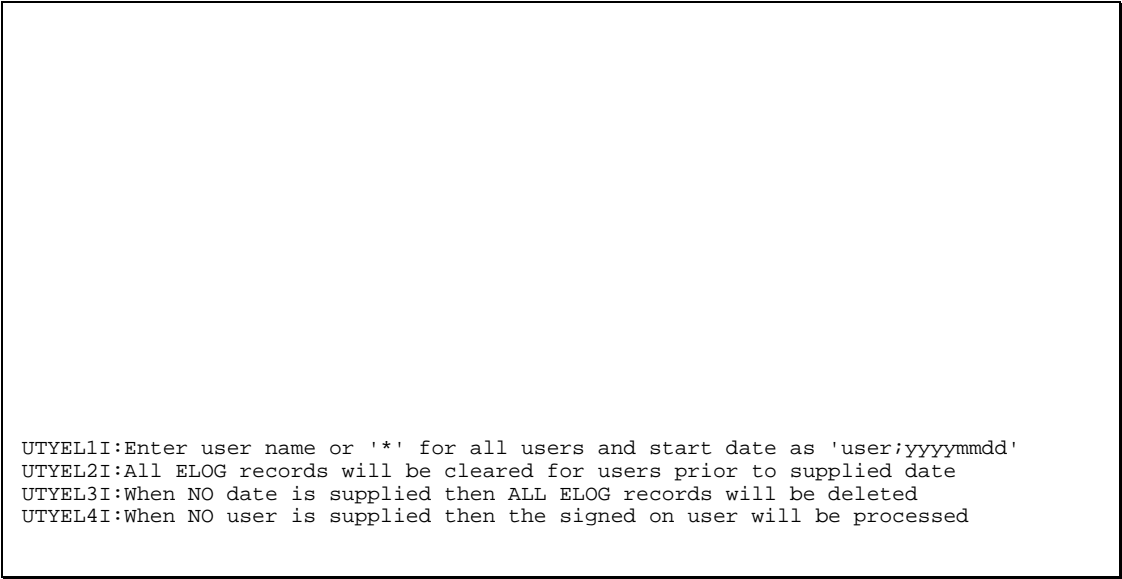
```
ETYEUTI:Enter the user name, '****' for ALL users, CANCEL to terminate.
UTYXC2I:All CREF records will be cleared for that user(s).
```

Cleanup ELOG file

If logging is turned on, the ELOG file can grow rapidly on an active development system and should be archived periodically. The Cleanup ELOG File utility deletes all log records for a specified user, or for all users prior to a specified date. You can archive the ELOG file by using VSAM utilities.

Press the CANCEL key to exit to the MANTIS Utility Selection Menu.

The following screen illustration shows the screen that displays when you select the Cleanup ELOG File utility:

```
UTYEL1I:Enter user name or '*' for all users and start date as 'user;yyyymmdd'
UTYEL2I:All ELOG records will be cleared for users prior to supplied date
UTYEL3I:When NO date is supplied then ALL ELOG records will be deleted
UTYEL4I:When NO user is supplied then the signed on user will be processed
```
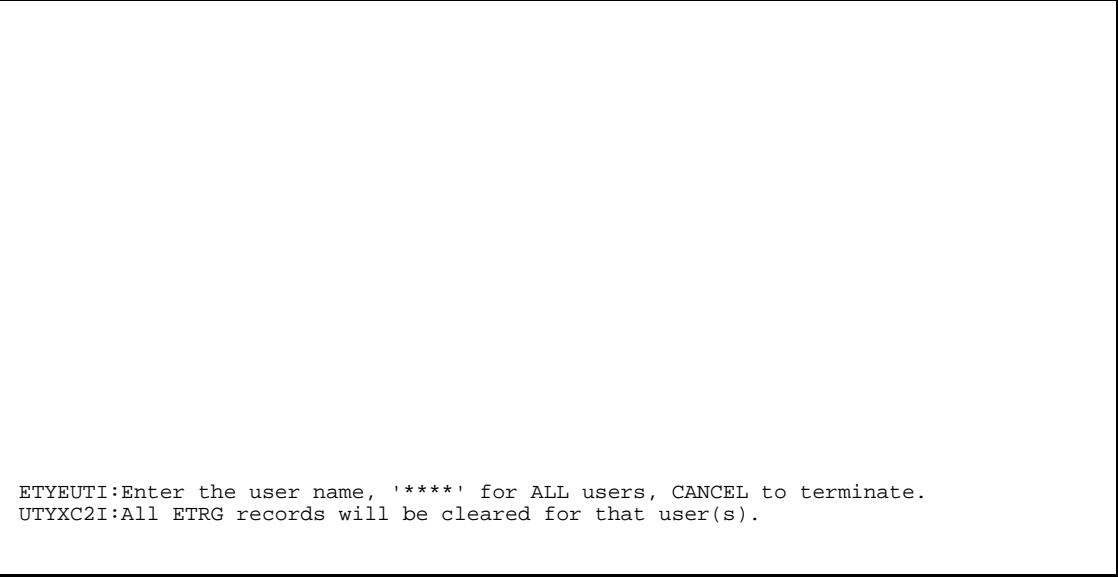
Cleanup ETRG file

The Cleanup ETRG File utility deletes all trigger records for a specified user, or for all users on the MANTIS cluster.

Trigger records are written to the ETRG file when 'Immediate?' is set to N in program design, or on component engineering action parameter entry screens. Designated actions are executed later, either online or in batch. If you use wildcard selection characters unintentionally, you can generate more trigger records than desired. You can delete individual trigger records from the trigger list.

Press the CANCEL key to exit to the MANTIS Utility Selection Menu.

The following screen illustration shows sample output when using this utility:

```
ETYEUTI:Enter the user name, '****' for ALL users, CANCEL to terminate.
UTYXC2I:All ETRG records will be cleared for that user(s).
```

Reorganize ETRG file

The Reorg ETRG File utility resequences records on the trigger file beginning at number one, and ending at the number corresponding to the last record for that user on the file.

Every record that is written to the trigger file has a sequence number to ensure that actions are performed in the order they were chosen. This sequence number increments by one for each record, up to the maximum number (99,999). Run this utility when you need to resequence the trigger file for a user that has trigger records.

The following screen displays when this utility is run:

```
REORGETRG                 Reorganize Trigger File            YYYY/MM/DD HH:MM:SS

 The trigger file needs to be reorganized.  This panel is displayed when there
 are 99,999 records on the trigger file, or the sequence number has reached
 99,999.  See your MANTIS System Administrator.

 Library . . . . . . .   MASTER

Options
   Stop after  . . . .      100

 Summary Statistics
   Record count  . . .




 FAC000I:Ready

 ENTER=CONTINUE   F3=EXIT   F12=CANCEL
```

Clear Code Maps

The Clear Code Maps utility clears and rebuilds the free file code and/or user code maps on the MANTIS cluster.

During User Profile Design, MANTIS returns the message 'User code out of range' if it attempts to insert a user with a code outside the valid user code range. During File Design, MANTIS returns the message 'File code out of range' if the assigned file code is outside the valid range of file codes.

The following screen displays when you run this utility:

```
     C L E A R    U S E R    A N D    F I L E    C O D E
              A L L O C A T I O N    M A P S

  PF1 = CLEAR USER CODE ALLOCATION MAP

  PF2 = CLEAR FILE CODE ALLOCATION MAP FOR ALL USERS

  PF3 = CLEAR FILE CODE ALLOCATION MAP FOR USER
        ==>

  CANCEL = TERMINATE THIS FACILITY
```

CLEAR USER CODE ALLOCATION MAP

Description   *Optional.* Reconstructs the user code map.

CLEAR FILE CODE ALLOCATION MAP FOR ALL USERS

Description   *Optional.* Reconstructs all file code maps. (Internally, MANTIS maintains the file code maps for each user.)

CLEAR FILE CODE ALLOCATION MAP FOR USER ==>

Description   *Optional.* Reconstructs file code map for the specified user.

Display File Codes

The Display File Codes utility shows the assigned file codes for the MANTER User.

All file codes less than 17 and greater than 999 are reserved for use by MANTIS. Any user can also run this utility by name (CONTROL:SHOW_CODES) to show associated file codes for that user.

The file codes in the following illustration are typical of what you see when you select this utility:

```
                LIST OF FILES (SETS)    USER - MASTER

FILE NAME                  FILE CODE (HEX.)
----------------           ---------  ----
ABC                              20   0014
ACCESS                           11   000B      * INTERNAL FILE *
CASE_DATAFIELDS                  22   0016
CASE_DATAVIEW                    21   0015
CASE_ELEMENT                     28   001C
CASE_TEXTHDR                     24   0018
CASE_TEXTLINE                    26   001A
CUST_INFO                        34   0022
DLI_PROFILE_37                   17   0011
DLI_PROF37_UNQUA                 18   0012
DLI_SEGMENT_37                   19   0013
FSE_STACK-                    32753   77F1      * INTERNAL FILE *
INTERFACES                        5   0005      * INTERNAL FILE *
MAGIC_LIBRARY                    25   0019
MAGIC_PRESENT                    27   001B
PP_TM_143898                     31   001F
PP_TM_143898                     32   0020
PP_TM_143898                     33   0021
```

To exit from Multiple Display File Codes screens, enter KILL in the Key Simulation Field.

Display File Map

The Display File Map utility shows a map with the assigned file codes for a specified user. MANTIS uses this map to assign file codes during File Profile Design.

When you run this utility, you are first prompted for a user name. Specify the user name and press ENTER.

Any user can run the Display File Map utility by name (CONTROL:SHOW_FILEMAP) to display the file map for that user.

The file map in the following illustration is typical of what you see when you select this utility:

```
CODEMAP01               MANTIS FILE MAP CODE DISPLAY        YYYY/MM/DD HH:MM:SS
  DEC|   0      1      2      3      4      5      6      7      8      9   |
   0 | 0000   0001   0002   0003   0004   0005   0006   0007   0008   0009
  10 | 000A   000B   000C   000D   000E   000F   0010   0011   0012   0013
  20 | 0014   0015   0016   0017   0018   0019   001A   001B   001C   001D
  30 |
  40 |
  50 |
  60 |
  70 |
  80 |
  90 |

UTYFM2A:Press ENTER to continue; PF3 or CANCEL to exit
```

You can have up to 900 MANTIS (internal) files per user. The first 16 files (file codes hex 0000 to 0010) are reserved by MANTIS. When you delete a file, the File Map Code Display shows a blank file code. MANTIS automatically reuses the available file code when you create another file.

Press ENTER to continue to next screen, or press PF3 or CANCEL to exit to the MANTIS Utility Selection Menu (see illustration on page 131). The display ends with the last file code assigned.

Display User Map

The Display User Map utility shows a map with the assigned user codes in your cluster. MANTIS uses this map to assign user codes during User Profile Design.

The user map in the following illustration is typical of what you see when you select this utility:

```
CODEMAP01              MANTIS USER MAP CODE DISPLAY         YYYY/MM/DD HH:MM:SS

 DEC│   0      1      2      3      4      5      6      7      8      9  │
  0 │ 0000   0001   0002   0003   0004   0005   0006   0007   0008   0009 │
    │                                                                     │
 10 │ 000A   000B   000C   000D   000E   000F   0010   0011   0012   0013 │
    │                                                                     │
 20 │ 0014   0015   0016   0017   0018   0019   001A   001B   001C   001D │
    │                                                                     │
 30 │ 001E   001F   0020   0021   0022   0023   0024   0025   0026   0027 │
    │                                                                     │
 40 │ 0028   0029   002A   002B   002C   002D   002E   002F   0030   0031 │
    │                                                                     │
 50 │ 0032   0033   0034   0035   0036   0037   0038   0039   003A   003B │
    │                                                                     │
 60 │ 003C   003D   003E   003F   0040   0041   0042   0043   0044   0045 │
    │                                                                     │
 70 │                                                                     │
    │                                                                     │
 80 │                                                                     │
    │                                                                     │
 90 │                                                                     │

UTYFM2A:Press ENTER to continue; PF3 or CANCEL to exit
```

Press ENTER to continue to next screen, or press PF3 or CANCEL to exit to the MANTIS Utility Selection Menu (see illustration on page .

Display User Codes

The Display User Codes utility shows the assigned user codes in your cluster, including MANTIS protected users. The status is also provided, as shown in the following screen illustration.

```
                     LIST OF USER PROFILES

USER NAME               USER CODE (HEX.)        STATUS
----------------        --------- ----          ------
ADO_TEST                       18 0012          ACTIVE
CASE                            6 0006          ACTIVE  * PROTECTED USER *
CONTROL                         0 0017          ACTIVE  * PROTECTED USER *
EXAMPLES                       17 0011          ACTIVE
MASTER                         16 0010          ACTIVE
PROFILE_DEFAULTS               -1 ****          ACTIVE  * PROTECTED USER *
TEST_CODE                      19 0013          ACTIVE
TESTUSER                       20 0014          ACTIVE
TRANSFER                        1 0001          ACTIVE  * PROTECTED USER *
USER108                       108 006C          ACTIVE
USER119                       119 0077          ACTIVE
USER130                       130 0082          ACTIVE
USER141                       141 008D          ACTIVE
USER152                       152 0098          ACTIVE
USER163                       163 00A3          ACTIVE
USER174                       174 00AE          ACTIVE
USER185                       185 00B9          ACTIVE
USER196                       196 00C4          ACTIVE
```

Press the CANCEL key to exit to the MANTIS Utility Selection Menu (see).

Display Program Statistics

The Display Program Statistics utility displays statistics on a program or programs for a specified user. When you run this utility, the following screen displays:

```
                                                          YYYY/MM/DD
                    M A N T I S                           HH:MM:SS

                 PROGRAM Statistics

           User : MASTER                :
       Password :                        :
  Starting name :                                        :
    Ending name :                                        :

  Auto sequence : NO

                    List statistics  ......... PF1
                    Print statistics  ........ PF2
                    Terminate  ...........  CANCEL

                            :     :
```

User

Description	*Required*. Indicates the user containing the program on which you want statistics.
Default	MASTER

Password

Description	*Optional*. Indicates the password for a user other than MASTER.
Consideration	Supply a password for the user (if not MASTER).

Starting name

> **Description** *Optional.* Indicates the starting name if a range of programs is desired.
>
> **Considerations**
>
> ♦ You can enter a single name to indicate the start of a range.
>
> ♦ You can also enter a partial name with a wildcard character (* or ?).
>
> ♦ Leave blank to select all programs in the user.

Ending name

> **Description** *Optional.* Indicates the ending name if a range of programs is desired.
>
> **Considerations**
>
> ♦ You can enter a single name to indicate the end of a range.
>
> ♦ Leave blank to select all programs in the user.
>
> ♦ Do not enter a name here if you entered a wildcard name in Starting name field.

Auto sequence

> **Description** *Optional.* Indicates if you want the program(s) selected to be automatically renumbered.
>
> **Default** The suggested sequencing for each program is used for renumbering.

List statistics

> **Description** Presents statistic information on the program(s) selected, and the recommending sequencing.

Print statistics

> **Description**   Prints the statistic information on the program(s) selected, and the recommended sequencing.
>
> To display the statistics, enter a 1 in the selection field and press ENTER, or press PF1. The following screen displays MANTIS Program Statistics:

```
YYYY/MM/DD - HH:MM:SS          MANTIS Program Statistics          Page - 1
 User - MASTER
                                                  Sequencing
 ----------Program--------------- Lines Size(B)  Maxim Sugg Messages---------
 FACILITY                           83   2049     301  100
```

Program

> **Description**   Displays the program name.

Lines

> **Description**   Displays the current number of lines in the program.

Size(B)

> **Description**   Displays the size (in bytes) of the program.
>
> **Consideration**   The program size reflects the total amount of all storage used by a program in memory—program work area, data work areas, screen areas, vocabulary work areas, and other overhead.

(Sequencing) Maxim

Description Displays the maximum value (gap between line numbers) you can use to SEQUENCE the program.

(Sequencing) Sugg

Description Displays the suggested value for SEQUENCING.

Consideration This value is used if you specify AUTO SEQUENCE: YES on the Program Statistics Menu (see the screen illustration on page 173).

Messages

Description Displays any messages concerning the program.

Consideration The message SEQUENCED displays if you specified AUTO SEQUENCE: YES on the Program Statistics Menu (see the screen illustration on page 173).

HPO check all bound programs

The HPO Check All Bound Programs utility checks the consistency of all bound programs for the specified user. When you select this utility, you are prompted to enter the name of a user. This utility is valid only if you have the High Performance Option (HPO).

Shared Pool Entity Statistics Facility

To help you determine which programs or DL/I call profiles are best suited to be placed in the Shared Pool, a Statistics Facility is available. Statistics can be kept on accesses to programs and DL/I call profiles. For programs, separate statistics are kept for each access of the program from the SETPRAY cluster, from the Shared Pool, or from the Local Program Chain (for external DOs). For DL/I call profiles, separate statistics are kept for each access of the call profile from the SETPRAY cluster or from the Shared Pool.

For programs and DL/I call profiles loaded into the running Shared Pool, statistics on accesses are kept with each entity. For statistics on accesses to nonshared programs (from the SETPRAY cluster and the Local Program Chain) and nonshared DL/I call profiles (from the SETPRAY cluster), statistics are kept in a reserved area in the running Shared Pool. You can adjust the size of the nonshared entity statistics area with a Customization Macro parameter:

```
C$OPCUST STATCNT=(programs,call_profiles)
```

The default for programs and call_profiles is 500. See "Customization Macro" on page 252 for more information on this parameter.

When you select option 22 from the MANTIS Utility Selection menu, the
Shared Entity Statistics menu in the following screen illustration displays:

```
MANTSTATS01     MANTIS Shared Entity Pool Statistics Menu        YYYY/MM/DD
                                                                 HH:MM:SS

 Please select one of the menu options below:

      Program Statistics                    Call Profile Statistics

 ___  Switch Program Statistics On ..... 1  Switch Profile Statistics On ... 7
      Switch Program Statistics Off .... 2  Switch Profile Statistics Off .. 8
      Display Statistics (by Usercode) . 3  Display Statistics (by Name) ... 9
      Display Statistics (by Usage) .... 4  Display Statistics (by Usage) ..10
      Print Statistics (by Usercode) ... 5  Print Statistics (by Name) .....11
      Print Statistics (by Usage) ...... 6  Print Statistics (by Usage) ....12









 F1=HELP  F3=EXIT  F12=CANCEL
```

Shared Pool Program Statistics

The Program Statistics portion of the menu (see the screen illustration
under "Shared Pool Entity Statistics Facility" on page 177) allows you to
switch program statistics on or off, and display or print program statistics
sorted by usercode or usage.

Switch Program Statistics On
Switch Program Statistics Off

Description   *Optional.* Turns statistics collection for programs on/off.

Consideration A message displays indicating program statistics collection was turned on
or off.

Display Statistics (by Usercode)

Description   Displays program statistics sorted by usercode (see the following screen illustration).

Considerations

- ◆ The usercode is assigned when a user is created. Usercodes run from 0–255 (the MASTER user is usercode 16, and usercodes less than 16 belong to CONTROL users). See the INTERNAL USER CODE parameter on page 61 for information concerning creating users with specific usercodes, and "Display User Codes" on page 172 for information on the Display Usercodes Utility.

- ◆ The usercode is translated into the user name for easier reference.

- ◆ Program names have been truncated to fit the Username, Program Name, and the Total, Setpray, Shared Pool, and Local Counts on the same screen. The Full Program Name displays to the right of the display (as with other directory listings). To view the Full Program Name, activate window mode by typing a W in the lower right corner of the screen (the PF Key Simulation Field) and pressing ENTER. Then scroll your display to the right (PF11) to view the Full Program Name (see the screen illustration on page 181).

```
MANTSTATS02      MANTIS Program Statistics              YYYY/MM/DD   HH:MM:SS

                                        Total  Setpray   Shared   Local
User Name           Program Name        Count    Count    Count   Count

 CONTROL            FSE_DYNMAP            2        1                 1
 CONTROL            FSE_EDIT              2        1                 1
 CONTROL            FSE_LINECOM           3                  3
 CONTROL            MANT_STATS            2        2
 CONTROL            RUN_A_PROGRAM         2                  2
 CONTROL            SIGN_ON               1        1
 VPF                ADOP_EEPR_LIST        1        1
 VPF                ADOP_EXECUTE_ACTION1  1        1
 VPF                ADOP_PRGM_MENU        2        2
 VPF                ADOX_BRANCHER         5        3                 2
 VPF                ADOX_BUILD_PFKEY_AREA 6        3                 3
 VPF                ADOX_INIT_DIALOG      6        3                 3
 VPF                ADOX_INIT_DIALOG_EDIT 2        1                 1
 MASTER             FACILITY              2                  2
 MASTER             START_FACILITY        2                  2



 SHRSTEI:End of Statistics
```

User Name

    Description   Displays the user (library) name where the program resides.

Program Name

    Description   Displays the program name.

    Consideration   The program name is truncated to the first 26 characters. To view the full program name, activate window mode and scroll to the right.

Total Count

    Description   Displays the total number of times the program was accessed (accumulation of Setpray Count, Shared Count, and Local Count).

Setpray Count

    Description   Displays the total number of times the program was executed from the SETPRAY cluster.

Shared Count

    Description   Displays the total number of times the program was executed from the running Shared Pool.

Local Count

    Description   Displays the total number of times the program was executed in a user's Local Program Pool (called by the PROGRAM statement—for external DO execution).

Full Program Name

> **Description**   Displays the full program name.
>
> **Consideration** The program name is truncated to the first 26 characters. To view the full program name, activate window mode and scroll to the right. The following screen provides an example of the Full Program Name screen:

```
istics                                            YYYY/MM/DD  HH:MM:SS


          Total   Setpray    Shared    Local
          Count     Count     Count    Count   Full Program Name

             2         1                   1   FSE_DYNMAP
             2         1                   1   FSE_EDIT
             3                   3             FSE_LINECOM
             2         2                       MANT_STATS
             2                   2             RUN_A_PROGRAM
             1         1                       SIGN_ON
             1         1                       ADOP_EEPR_LIST
1            1         1                       ADOP_EXECUTE_ACTION1
             2         2                       ADOP_PRGM_MENU
             5         3                   2   ADOX_BRANCHER
EA           6         3                   3   ADOX_BUILD_PFKEY_AREA
             6         3                   3   ADOX_INIT_DIALOG
IT           2         1                   1   ADOX_INIT_DIALOG_EDIT
             2                   2             FACILITY
             2                   2             START_FACILITY



 WMM:PF7-UP  PF8-DOWN  PF9-END  PF10-LEFT  PF11-RIGHT  PF12-HOME     001 036
```

Display Statistics (by Usage)

Description Displays program statistics sorted by program usage.

Considerations

♦ Programs display in the order of most called (see the following screen illustration).

♦ Program names have been truncated to the first 26 characters. The Full Program Name displays to the right of the display (as with other directory listings). To view the Full Program Name, activate window mode by typing a W in the lower right corner of the screen (the Pꜰ Key Simulation Field) and pressing Eɴᴛᴇʀ. Then scroll your display to the right (Pꜰ11) to view the Full Program Name.

```
MANTSTATS02       MANTIS Program Statistics              YYYY/MM/DD   HH:MM:SS


                                         Total  Setpray   Shared   Local
User Name          Program Name          Count   Count     Count   Count

VPF                ADOX_BUILD_PFKEY_AREA     6       3                  3
VPF                ADOX_INIT_DIALOG          6       3                  3
VPF                ADOX_BRANCHER             5       3                  2
CONTROL            FSE_LINECOM              3                 3
CONTROL            FSE_DYNMAP               2       1                  1
CONTROL            FSE_EDIT                 2       1                  1
CONTROL            MANT_STATS               2       2
CONTROL            RUN_A_PROGRAM            2                 2
VPF                ADOP_PRGM_MENU           2       2
VPF                ADOX_INIT_DIALOG_EDIT    2       1                  1
MASTER             FACILITY                 2                 2
MASTER             START_FACILITY           2                 2
CONTROL            SIGN_ON                  1       1
VPF                ADOP_EEPR_LIST           1       1
VPF                ADOP_EXECUTE_ACTION1     1       1



SHRSTEI:End of Statistics
```

Print Statistics (by Usercode)

Description   *Optional.* Prints program statistics sorted by usercode.

Considerations

♦ Sends output to the CICS online printer defined for the Master User.

♦ The usercode is assigned when a user is created. Usercodes run from 0–255 (the Master User is usercode 16, and usercodes less than 16 belong to CONTROL users). See the INTERNAL USER CODE parameter on page 61 for information concerning creating users with specific usercodes, and "Display User Codes" on page 172 for information on the Display Usercodes Utility.

♦ The usercode is translated into the user name for easier reference.

♦ To get full details of program statistics, print the report on a 132 column printer. If you print the report on an 80 column printer, the local count information truncates. The program name does not truncate to 26 characters on the printed report, and therefore the data to the right of the program name shifts further to the right, and the full program name does not need to be included as the rightmost data.

Print Statistics (by Usage)

Description   *Optional.* Prints program statistics sorted by program usage.

Consideration

♦ Sends output to the CICS online printer defined for the Master User.

♦ To get full details of program statistics, print the report on a 132 column printer. If you print the report on an 80 column printer, the local count information truncates. The program name does not truncate to 26 characters on the printed report, and therefore the data to the right of the program name shifts further to the right, and the full program name does not need to be included as the rightmost data.

Shared Pool DL/I Call Profile statistics

The DL/I Call Profile Statistics portion of the menu (see the screen illustration on page) allows you to switch call profile statistics on or off, and display or print call profile statistics sorted by profile name or usage.

Switch Profile Statistics On
Switch Profile Statistics Off

Description   *Optional.* Turns statistics collection for DL/I call profiles on or off.

Consideration   A message displays indicating call profile statistics collection was turned on or off.

Display Statistics (by Name)

Description   *Optional.* Displays DL/I call profile statistics sorted alphabetically by call profile name (see the following screen illustration).

Display Statistics (by Usage)

Description   Displays DL/I call profile statistics sorted by usage.

Print Statistics (by Name)

Description   Prints DL/I call profile statistics sorted alphabetically by call profile name.

Consideration   Sends output to the CICS online printer defined for the MASTER user.

Print Statistics (by Usage)

Description   Prints DL/I call profile statistics sorted by usage.

Consideration Sends output to the CICS online printer defined for the MASTER user.

```
MANTSTATS03     MANTIS Call Profile Statistics          YYYY/MM/DD   HH:MM:SS

                                    Total     Setpray      Shared
Profile Name                        Count       Count       Count

EMPLOYEE_2_QUAL                         3           3
EMPLPROJ_4_QUAL                         1           1
EMPLOYEE_ISRT                           9                       9
EMPLOYEE_QUAL                           7           7










 SHRSTEI:End of Statistics
```

Profile Name

Description   Displays the DL/I call profile name.

Total Count

Description   Displays the total number of times the DL/I call profile was accessed (accumulation of Setpray Count and Shared Count).

Setpray Count

Description   Displays the total number of times the DL/I call profile was accessed from the SETPRAY cluster.

Shared Count

Description   Displays the total number of times the DL/I call profile was accessed from the running Shared Pool.

Controlling statistics with a MANTIS background task

Statistics can be switched on, switched off, and printed using a MANTIS background task. You need to PERFORM CONTROL:MANT_STATS, passing parameters, to indicate the action you want to take. See "MASTER User's extended functionality" on page 45 for more information on background tasks.

Parameters passed to CONTROL:MANT_STATS consist of a text variable containing two characters.

The first character is set to:

♦ 0 (zero) to switch statistics collection on.

♦ 1 to switch statistics collection off.

♦ 2 to print statistics sorted by usercode (for programs) or call profile name.

♦ 3 to print statistics sorted by usage.

The second character is set to:

♦ 1 to indicate a program statistics action

♦ 2 to indicate a DL/I call profile statistics action

The following example runs CONTROL:MANT_STATS in background (as the MASTER user), under the current TRANSID and turns on statistics collection for programs.

```
PERFORM"/BACK,MASTER,password,CONTROL:MANT_STATS;01"
```

NOTE

If the parameters passed to CONTROL:MANT_STATS are invalid, an error message (IVP:INVALID PARAMETERS) is written to the CSOL file. If you receive this message, correct the parameters and execute the PERFORM /BACK statement again.

Also, if you attempt to execute CONTROL:MANT_STATS in background as another user (not MASTER), an error message is written to the CSOL file. If you receive this message, make sure your PERFORM /BACK statement indicates the MASTER user (with the appropriate password).

You can switch on statistics on at the start of the day, and then switch them off and print them at the end of the day by using background tasks.

The interface used by CONTROL:MANT_STATS to return statistics is also supplied in the MASTER user. As an example, you can use this interface with an external program to capture statistics during a given time period and then save them to an external file for later examination.

Statistics interface layout

The interface layout for statistics is MASTER:MANT_STATS. The interface profile (shown in the following screen illustration) shows MSTATINT as the PROGRAM TO BE CALLED. MSTATINT is a routine in the interface CSOPSTAT, which must be link-edited with MANTIS.

```
                    M   A   N   T   I   S


                  Interface Design Facility


Name and description of interface  ...... : MANT_STATS      :
: INTERFACE FOR SHARED ENTITY POOL USAGE STATISTICS         :
Associated layout area  ................. :                 :
Password for using  .................... : xxxxxxxxxxxxxxxx :
Program to be called  .................. : MSTATINT  :
Status  ................................ : ACTIVE           :
```

The interface layout for MANT_STATS consists of the following fields:

```
Page 1                   MANTIS Interface Area Definition          YYYY/MM/DD
 Name:  MANT_STATS                          Element count      9      HH:MM:SS
   -----M A N T I S------  ---------------Element size     64 -------------------
          Name        Type    Position Format Length Sign Dec  Dim Offset Attribute
    INT_FUNCTION     BIG      1       BINARY   4
    INT_ENTITY       BIG      5       BINARY   4
    INT_USR          BIG      9       BINARY   4
    INT_PRG          TEXT     13      TEXT     32
    INT_TOT_CNT      BIG      45      BINARY   4
    INT_SET_CNT      BIG      49      BINARY   4
    INT_SHR_CNT      BIG      53      BINARY   4
    INT_LOC_CNT      BIG      57      BINARY   4
    INT_FULL_IND     BIG      61      BINARY   4




                     (Use PF1 - PF16 to page; use CANCEL to exit)
```

INT_FUNCTION

Description   *Required.* Indicates the function to be performed.

Options   0   Switch statistics collection on.

1   Switch statistics collection off.

2   Create a sort file in username/call profile name order.

3   Create a sort file in total usage order.

4   Returns the next record from the sort file.

5   Used to end processing of the sort file.

Consideration You must execute either function 2 (create file sorted by usercode/call profile name) or 3 (create file sorted by usage) before executing function 4 (get a record) or 5 (end processing).

INT_ENTITY

> **Description**   *Required.* Indicates which entity type is being processed.
>
> **Options**   1   Programs
>
>   2   DL/I call profiles
>
> **Consideration** These values are used with all functions.

INT_USR

> **Restriction**   Used only for program statistics.
>
> **Description**   Displays the usercode of the library where the program resides for program statistics.
>
> **Considerations**
>
> ♦   Not used for DL/I call profiles because all profiles are stored in the MASTER user.
>
> ♦   The usercode is assigned when a user is created. Usercodes run from 0–255 (the MASTER user is usercode 16, and usercodes less than 16 belong to CONTROL users). See the INTERNAL USER CODE parameter on page 61 for information concerning creating users with specific usercodes, and "Display User Codes" on page 172 for information on the Display Usercodes Utility.

INT_PRG

> **Description**   Displays the program or DL/I call profile name.

INT_TOT_CNT

> **Description**   Displays the total number of times an entity was accessed.

INT_SET_CNT

> **Description**   Displays the total number of times an entity was executed from the SETPRAY cluster.

INT_SHR_CNT

Description   Displays the total number of times an entity was executed from the running Shared Pool.

INT_LOC_CNT

Restriction   Only applies to program statistics.

Description   Displays the total number of times a program was executed from a user's Local Program Pool (for external DO).

Consideration Does not apply to DL/I call profiles because they cannot be loaded into a user's Local Program Pool.

INT_FULL_IND

Description   Displays whether the statistics table for programs and DL/I call profiles not stored in the running Shared Pool has filled up.

Options   0   The statistics table has not filled up and statistics collection can continue.

<>0   The statistics table has filled up and statistics collection has stopped.

Consideration See "Shared Pool Entity Statistics Facility" on page 177 and "MANTIS customization and maintenance" on page 251 for information about increasing the number of programs and DL/I call profiles that statistics are collected on (for those programs and DL/I call profiles that are not stored in the running Shared Pool).

General consideration

Statuses returned in the MANT_STATS interface symbolic name are:

♦ **INVFUNC.** An invalid function supplied in the FUNCTION field.

♦ **EMPTY.** There are no statistics to report.

♦ **END.** All statistics records have been processed.
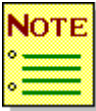
NOTE	When the status END is returned, call the interface passing an INT_FUNCTION of 5 to indicate that you are ending statistics reporting.

Display CSOL File

Whenever a MANTIS background task is executed, MANTIS writes at least two, and possibly three, records to the CSOL file:

- ♦ **First record.** Indicates the start of the MANTIS background task.

- ♦ **Second record.** Indicates the end of the MANTIS background task.

- ♦ **Third record.** Indicates that an error condition occurred in the MANTIS program executing in the background. This record is written in between the first and second records.

If the MANTIS program that executes in the background was created by someone at your installation, that program may also write one or more records to the CSOL file.

> **NOTE**
>
> The external file view for the CSOL file is located on the Master User.

MANTIS starts a background task to load the Shared Pool (see "Shared Pool Facility" on page 337) and to remove a lost terminal from the signed on terminal pool (see "Limited terminal support in MANTIS" on page 43).

When you choose the Display CSOL File option on the Utility Selection Menu, MANTIS displays the following screen:

```
CSOLBROW01               MANTIS CSOL Log File Browse          2001/07/12
                                                              12:51:04


  Record Type ............ 0  (0=Background Data)
  Library Program ID ..... CONTROL:FACILITY_CALLER
  User ID ................ MASTER
  Invoking User ID ....... INITIALIZATION
  Invoking Program ....... MASTER:CSOXISPB
  Invoking Terminal ID ... PLTP
  Task ID ................ 1124
  Date Stamp (YYYYDDD) ... 2001086   ( 2001/03/27 )
  Time Stamp (HHMMSS) .... 164823
  Function/Start-End-Error NUCSBTI:Start MANTIS background task
  Statement in Program ...
  Error Message .........



 F3=END  F5=FIRST  F6=LAST  F7=BCK  F8=FWD  F12=CANCEL F15=MENU F24=LOGOFF
```

The screen above shows what the first record would look like if the started MANTIS background task loaded the Shared Pool at CICS initialization.

The options available on the screen above are selected by function key:

Key	Description
PF3, PF12	Terminates the facility and returns you to the Utility Selection Menu.
PF5	Displays the first record in the file.
PF6	Displays the last record in the file.
PF7	Displays the previous record in the file.
PF8 or ENTER	Displays the next record in the file.
PF15	Returns you to the MASTER Facility Selection Menu.
PF24	Terminates your MANTIS session and returns you to CICS.

MANTIS Customization Facility

The MANTIS Customization Facility (MCF) provides information about the last time MANTIS was installed or upgraded at your installation. When you choose this option from the Utility Selection Menu, you will see a screen with information similar to that displayed in the following screen:

```
CBDF01              MANTIS Customization Facility        2001/07/12 15:02:45
                                                              Page 1 of 3

Information about the last BDF installation.

        BDF Installation last run on  .. : 2001/06/06 11:13:21 :
        Installed/upgraded from release  : 5401 : (Supplied at Install)
        Running CPU ID at install time . : 110005155000000 :

    Date/Time completed:

        Authorization  ................. : 2001/06/06 11:13:21 :
        Installation Check  ............ : 2001/06/06 11:13:30 :
        Cleanup Cluster  ............... : 2001/06/06 11:13:47 :
        Upgrade MCPU Patches  .......... : 2001/06/06 11:13:48 :
        Set User Options  .............. : 2001/06/06 11:13:48 :
        Set External Names  ............ : 2001/06/06 11:13:48 :




F3=EXIT  F8=FWD  F12=CANCEL  F15=MENU  F24=LOGOFF
```

Screen entry	Description
BDF Installation last run on	Shows the date and time that MANTIS was last installed or upgraded.
Installed/upgraded from release	The release from which MANTIS was upgraded.
Running CPU ID at install time	The ID of the CPU that was running at the time that MANTIS was installed.
Date/Time completed	Indicates what internal utilities were run during the BDF installation process. This information may be requested by Cincom Support.

When you press PF8, the following screen is displayed:

```
CBDF02                MANTIS Customization Facility        2001/07/12 16:40:52
                                                              Page 2 of 3

Information supplied for last BDF installation.

                    CEF Character  .... : @ :
                    Language  ......... : ENU :
                    Log Options  ...... : NO  :
                    IADB File Name  ... : MAJSIADB :
                    CSOL File Name  ... : MAJSCSOL :
                    EDPR File Name  ... : MAJSEDPR :
                    EEPR File Name  ... : MAJSEEPR :
                    EHLP File Name  ... : MAJSEHLP :
                    ELOG File Name  ... :         :
                    EREF File Name  ... : MAJSEREF :
                    ETRG File Name  ... : MAJSETRG :
                    UEF Cluster Name  . : MAJSUEFC :
                    UEF Log Name  ..... : MAJSUEFL :




F3=EXIT  F7=BKWD  F8=FWD  F12=CANCEL  F15=MENU  F24=LOGOFF
```

Screen entry	Description
CEF Character	Displays the character, chosen at installation time, to be appended to source programs in the Component Engineering Facility.
Language	Displays the language in which screens and messages in the development environment will appear. Do not change this from ENU (mixed case English) or ENP (uppercase English) without consulting Cincom support.
Log Options	Indicates whether or not an audit trail will be created for programs when they are created, edited, etc. An audit trail consists of audit records written to the ELOG file. When entered at installation time, this option applies to all users.
Displayed file names (applies to every screen entry below Log Options)	Indicates the file names entered at installation time for the MANTIS support files. These names correspond to the defined CICS file control names (DDname or DLBL name).

When you press PF8, the following screen is displayed:

```
CBDF03                 MANTIS Customization Facility        2001/07/13 11:13:52
                                                                   Page 3 of 3

 Information supplied for last BDF installation.

   Installed CPU ID ... : 1100037304000000 :  Licensed Terminals ... : 10    :
   Installed Password . : 16135013 :          Warning Lead Days .... : 60  :
   MANTIS Starting Date : 2001/06/06 :  MANTIS Expiration Date : 2001/12/27 :


   QRW ............... :             :  HPO ................. : 2001/12/27 :
   XREF .............. :             :  Entity Transformers .. : 2001/12/27 :
   Component Engineering: 2001/12/27 :  AD/Advantage ......... :            :
   AD/A RDM Gen ....... :            :  MVS/ESA or OS/390 DB2  :            :
   SQL/SUPRA .......... :            :  VSE/ESA SQL/DS or DB2  :            :
   DL/1 .............. :            :  Search Facility ...... : 2001/12/27 :
   SAP Access ......... :            :  MQSeries Interface ... :            :
   DBCS .............. :            :  Run Only ............. :            :




 F3=EXIT  F7=BKWD  F12=CANCEL  F15=MENU  F24=LOGOFF
```

The screen above, which is the final screen, shows the authorization information entered during the last MANTIS install. For more information on the meaning of the displayed fields, see "Authorize MANTIS/Options Utility" on page 611.

> **NOTE**
>
> The information displayed in the screen above only reflects the information entered during the last install. It does not necessarily reflect the conditions under which MANTIS is currently running. Use the Authorization Utility option to view current MANTIS information. For more information, see "Authorize MANTIS/Options Utility" on page 611.

Split SETPRAY Utility

The Split SETPRAY Utility splits the MANTIS cluster (SETPRAY) into multiple files, placing them on different disk packs. Splitting the cluster improves I/O and reduces access contention. Additionally, placing CONTROL and MASTER users on a separate cluster allows multiple MANTIS systems to share them.

The Split SETPRAY Utility is a MANTIS program (CSOXSPLT) located in the CONTROL library. CONTROL:CSOXSPLT moves a MANTIS user's files from the SETPRAY cluster to the CSOXSPL file (the DD name in your MANTIS JCL). This allows SETPRAY to be physically divided into many clusters. MANTIS processes the separate clusters as one logical SETPRAY cluster via the CSOXSETP user exit. For more information on CSOXSETP, see "SETPRAY cluster exit" on page 648.

The Split SETPRAY Utility can run in a special preview mode, allowing you to view which files would be moved before the actual operation occurs. The preview mode can be run online; however, you must run the Split SETPRAY Utility in Batch MANTIS to physically move files.

When using Split SETPRAY, consider the following:

♦ The user exit CSOXSETP is link-edited with MANTIS for the normal everyday processing of a split SETPRAY.

♦ To use the Split SETPRAY Utility, the special exit CSOXSPLT must be link-edited with MANTISB (Batch MANTIS). CSOXSPLT is used by the Split SETPRAY Utility to physically move files from one cluster to another. CSOXSPLT is an object-code module provided on the MANTIS installation tape or as part of the installation process.

NOTE

> CSOXSPLT has the same entry point name as CSOXSETP, and therefore, the two exits cannot exist in the same MANTISB at the same time.

♦ The installation tape provides a special MANTISB with CSOXSPLT already linked in. The name of this special Batch MANTIS is CSOPSPLT. It prevents you from having to link and relink Batch MANTIS each time you need to split the cluster. See the illustration under "Split SETPRAY Utility in batch" on page 206 for an example of using CSOPSPLT to split the cluster.

♦ In past releases of MANTIS, heavy use of MANTIS internal files in a production environment could cause I/O contentions while accessing the cluster because programs, screens, file profiles, and file data were all kept on the same physical cluster. Therefore, it was generally recommended you not use MANTIS internal files in production programs. However, with this release you can move MANTIS internal files to a separate cluster to significantly reduce the contention for I/O on the main cluster and allow you to fully utilize MANTIS internal files in production programs with little consideration for previous I/O constraints.

♦ If the SETPRAY is split already, the Split SETPRAY Utility loads the CSOXSETP user exit to determine the proper location of MANTIS files. This information allows the Split SETPRAY Utility to further split the MANTIS Directory (see the following figure):

NOTE
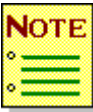
If the SETPRAY is not split already, make sure CSOXSETP cannot be loaded during execution of the Split SETPRAY Utility. If CSOXSETP is loaded, the Split SETPRAY Utility may attempt to access files or users from the alternate data set instead of the SETPRAY cluster.

SETPRAY
Master/
Control
... and
others

CLUS001
Users
A–M

First split - moves users A–M
from SETPRAY—CLUS001 (DD CSOXSPL)

- JCL (partial)
.
.
.
SETPRAY DD DSN=MANTIS.CLUSTER
CSOXSPL DD DSN=MANTIS.CLUS001
.
.

CLUS002
Users
N–Z

Second split - moves users N–Z
from SETPRAY—CLUS002 (DD CSOXSPL)

- JCL (partial)
.
.
.
SETPRAY DD DSN=MANTIS.CLUSTER
CSOXSPL DD DSN=MANTIS.CLUS002
.
.

SETPRAY
Master/
Control
... and
others

CLUS001
Users
A– M

Third split—moves users T–Z
from CLUS002 to CLUS003 (DD CSOXSPL)
using the CSOXSETP exit coded after the
second split.

- JCL (partial)
.
SETPRAY DD DSN=MANTIS.CLUSTER
CLUS001 DD DSN=MANTIS.CLUS001
CLUS002 DD DSN=MANTIS.CLUS002
CSOXSPL DD DSN=MANTIS:CLUS003
.

CLUS003
Users
T–Z

CLUS002
Users
N–S

♦ In the third split in the preceding figure, the clusters previously split out are included in DD statements. The Split SETPRAY Utility loads the CSOXSETP user exit to get the names of the multiple clusters and files that exist on that cluster. With this reference, you can move files from any cluster to another.

♦ To move files back to SETPRAY, define the SETPRAY cluster with both DD names, SETPRAY and CSOXSPL. For example, include the following in your JCL:

```
SETPRAY DD DSN=MANTIS.CLUSTER <=== same file name
CLUS001 DD DSN=MANTIS.CLUS001
CLUS002 DD DSN=MANTIS.CLUS002
CLUS003 DD DSN=MANTIS.CLUS003
CSOXSPL DD DSN=MANTIS.CLUSTER <=== same file name
```

♦ Moving MASTER and CONTROL users to a separate cluster allows several MANTIS systems under different CICS systems to share one set of MASTER and CONTROL users. This can greatly reduce your efforts in maintaining MASTER user code for multiple systems. One MANTIS can have read/write access to the MASTER and CONTROL cluster while the other MANTIS systems have read-only access.

♦ As an option, you can use IDCAMS to copy files from one data set to another. However, if you use this method, you must:

1. Verify that all files specified to be copied were actually copied. An error in specifying key segments may result in some files not being copied.

2. After verifying the copy, delete all files from the source (copied-from) cluster. Deleting these files ensures only one copy of each file exists.
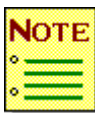
NOTE	If you are splitting multiple users (including CONTROL) in the same batch session, make sure the CONTROL user is the last library that is split off.
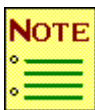
NOTE	If the SETPRAY cluster is opened read/write to an online system when the split SETPRAY utility is attempted, MANTIS entities are not moved. Instead, MANTIS entities are copied.

Splitting the cluster

To run the Split SETPRAY Utility, sign on to the MASTER user and select Run a Program by Name. Enter CONTROL:CSOXSPLT and press ENTER. The following screen displays:

```
                     M  A  N  T  I  S

                    Split SETPRAY Utility


     MANTIS user name .........:                     :

     User's MANTIS file name ..:                     : (Optional)

     Options:
        Preview ..............: Y :
```
```
 ENTER=PROCESS   PF1=HELP   CANCEL=TERMINATE
```

MANTIS USER NAME

Description   *Required.* Specifies the name of the user whose files are split to another cluster.

Consideration   MANTIS returns the message "FACUSEE:The user does not exist" if you enter an invalid user name.

USER'S MANTIS FILE NAME

Description   *Optional.* Specifies the name of the file whose entities will be split out.

Options   ACCESS   Moves all external VSAM file views created by that user.

CASE_DATAFIELDS   Moves file used for Design Object Generation.

CASE_DATAVIEW   Moves file used for Design Object Generation.

CASE_ELEMENT   Moves file used for Design Object Generation.

CASE_TEXTHDR   Moves file used for Design Object Generation.

CASE_TEXTLINE   Moves file used for Design Object Generation.

DLI_PROFILE_37   Moves all DL/I Qualified Profiles created by that user.

DLI_PROF37_UNQUA   Moves all DL/I Unqualified Profiles created by that user.

DLI_SEGMENT_37   Moves all DL/I Segment Layouts created by that user.

INTERFACES   Moves all interfaces created by that user.

PROGRAMS   Moves all programs created by that user.

PROMPTERS   Moves all prompters created by that user.

PROMPTERS_DBCS   Moves all DBCS prompters created by that user.

SCREENS   Moves all screens created by that user.

SETS   Moves all internal MANTIS file profiles for the user. SETS contains the controlling record for each MANTIS file. MANTIS reads this controlling record to determine how to handle the file.

SQLBIND   Moves SQL bound information created that user.

TOTAL   Moves all TOTAL file views created by that user.

(Other Names)   Moves user-defined MANTIS internal files. Contains the data from the internal file. The controlling record for each of these files exists in SETS (see above).

Considerations

♦ Not all above file names may be present on your system.

♦ If you leave this field blank, all files belonging to the user specified in 'MANTIS user name' are moved.

♦ You can move a group of files by using wildcard characters (* and ?). For example, specifying PRI* moves files such as PRICE_RATE, PRICE_BASE, and PRINT_LIST for the specified user.

♦ Specifying PROGRAMS in the User's MANTIS file name field moves all programs. You cannot move only one program.

♦ Specifying SCREENS in the User's MANTIS file name field moves all screens. You cannot move only one screen.

♦ Specifying a MANTIS internal file name moves all the records in that file, but not the internal file definition record (the file profile). The file profile must be moved separately.

♦ For example, specifying EMPLOYEE (a MANTIS internal file) moves all the EMPLOYEE records to the other cluster. When MANTIS accesses the EMPLOYEE file, the internal file definition record is read once from the SETS file on SETPRAY. All subsequent record accesses are performed on the cluster where the EMPLOYEE file exists.

PREVIEW

Description   *Required*. Allows you to see which user files will be moved without actually moving those files.

Default   Y

Options   Y

                  N

Considerations

- ♦ When PREVIEW is set to N, the utility physically moves the files and generates a report on which files were moved.

- ♦ N is not a valid option when running the Split SETPRAY Utility online. Setting the option to N results in an error message.

- ♦ CSOXSPLT does not have to be linked with MANTISB to run the utility in preview mode. A report is produced indicating which files will be moved.

- ♦ CSOXSPLT must be linked with MANTISB when executing the utility in nonpreview mode (PREVIEW=N) as the physical move actually occurs. A report is produced indicating which files were moved.

NOTE The installation tape provides a special Batch MANTIS with CSOXSPLT already linked in. This special Batch MANTIS, called CSOPSPLT, prevents you from having to link and relink Batch MANTIS each time you need to split the cluster. See "Split SETPRAY Utility in batch" on page 206 for an example of using CSOPSPLT to split the cluster.

Split SETPRAY Utility report

The following code sample is a report produced by running the Split
SETPRAY Utility on the EXAMPLES user. The User's MANTIS file name
field was left blank so all files are selected for move.

Preview mode

The following partial report is in preview mode:

```
Key segment '110005',
    File 'EXAMPLES(17):INTERFACES(5)' selected
    Number of records selected for move was 1
Key segment '110010',
    File 'EXAMPLES(17):JACKSON(16)' selected
    Number of records selected for move was 9
Key segment '110012',
    File 'EXAMPLES(17):PRICE_BASE(18)' selected
    Number of records selected for move was 1
```

Nonpreview mode

The following partial report is in nonpreview mode:

```
Key segment '110005',
    File 'EXAMPLES(17):INTERFACES(5)' selected
    Number of records processed was 1
Key segment '110010',
    File 'EXAMPLES(17):JACKSON(16)' selected
    Number of records processed was 9
Key segment '110012',
    File 'EXAMPLES(17):PRICE_BASE(18)' selected
    Number of records processed was 1
```

The Split SETPRAY Utility identifies the key segment of the records that were moved (or in preview mode—selected for move). This key segment must be used in the CSOXSETP user exit key segment range table to determine which physical file MANTIS uses when accessing specified key ranges (see "SETPRAY cluster exit" on page 648 for information on the CSOXSETP user exit). The key segment is a hexadecimal value.

The Split SETPRAY Utility also identifies the user code and file code of each entity moved (or selected for move). Codes are provided in parentheses after the user and file name (in decimal format). You can also get user and file codes from the Display User Codes and Display File Codes utilities. See "Display File Codes" on page 169 and "Display User Codes" on page 172 for more information.

After viewing this information, the main Split SETPRAY Utility screen (illustrated on page 620) displays the following message:

```
 UTYS07I:All files for 'EXAMPLES' successfully moved
```

The message in preview mode appears as follows:

```
 UTYS15I:All files for 'EXAMPLES' successfully selected
```

You can enter another user name to split off the cluster again.

Split SETPRAY Utility in batch

To perform the actual move, run CONTROL:CSOXSPLT using Batch MANTIS. The exit CSOXSPLT must be linked with MANTISB. Run the Split SETPRAY Utility in preview or nonpreview mode in batch.
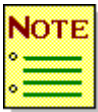
NOTE

The installation tape provides a special MANTISB with CSOXSPLT already linked in. This special Batch MANTIS, called CSOPSPLT, prevents you from having to link and relink Batch MANTIS each time you need to split the cluster. See the following code sample for an example of using CSOPSPLT to split the cluster.

OS/390 users will find the sample MVJSPLT JCL in the MVS.JCLLIB PDS. They will find seed for the cluster (MNISEED) and the sample CSOPSPLT input MNISPLIT in the COMMON.MACLIB PDS.

VSE/ESA users will find the sample MVJSPLT.JCL, the cluster seed MNISEED.A, and the sample input MNISPLIT.A in the MANTIS sublibrary.

UCTRAN interfaces

MANTIS program to call CSOXSETU interface

In order to control uppercase translations from MANTIS, you must be able to turn off uppercase translation performed by CICS. For the currently executing session, this is done by manipulating the UCTRAN attribute. Cincom supplies an interface program (CSOXSETU) which manipulates this attribute. This interface program works in the following environments:

♦ OS/390 CICS 3.2 and above

♦ VSE/ESA CICS 2.3 and above

The following code sample is a MANTIS program you can use to call the interface. You can call a program like this when your users sign on, or you can put this code into the program MASTER:SIGN_ON.

```
00010 ENTRY CSOXSETU
00020 .INTERFACE UCTRAN("CSOXSETU","CSOXSETU")
00030 .CALL UCTRAN("QRY")
00040 .IF UCTRAN="ON"
00050 ..CALL UCTRAN("OFF")
00060 .END
00070 EXIT
```

This program sends a query to the interface first. The interface returns ON or OFF, depending on the current status of UCTRAN for the current terminal. If on, the program calls the interface to turn off UCTRAN.

MANTIS interface layout

The following Print Facility output illustrates the interface area layout designed in MANTIS for the CSOXSETU interface program:

```
INT003  Page 1           MANTIS Interface Area Definition              2001/07/17
 Name: CSOXSETU                            Element count    1          10:19:20
   -----M A N T I S------  ------------- Element size      3 ------------------
        Name          Type   Position Format Length Sign Dec  Dim Offset Attribute
     FUNCTION          TEXT    1        TEXT     3



















                  (Use PF1 - PF16 to page; use CANCEL to exit)
```

Function codes are QRY, ON, and OFF.

Background and batch considerations

> **NOTE**
>
> Do not call this interface in a background task or batch program. UCTRAN is specific to the terminal you are running, and background tasks and batch tasks are not attached to a terminal.

If you call this interface from MASTER:SIGN_ON and/or MASTER:TERMINATE, add the following check to your code:

```
00010 ENTRY TERMINATE
   :      :
   :      :
00200 .IF TERMINAL<>"DUMMY"OR TERMINAL<>"BACK$MAN"
00300 ..INTERFACE UCTRAN("CSOXTCTE","CSOXTCTE")
00400 ..CALL UCTRAN("QRY")
00500 ..IF UCTRAN="ON"
00600 ...CALL UCTRAN("OFF")
00700 ..END
00800 .END
   :      :
   :      :
02000 EXIT
```

TERMINAL is set to DUMMY if the MANTIS program is running in batch. TERMINAL is set to BACK$MAN if the MANTIS program is running as a background task.

Converting DL/I Segment Layouts to interfaces

The Enhanced MANTIS-DL/I Access Facility can use the New Interface Facility in place of Segment Layouts. You can convert existing Segment Layouts to the new interface if the new interface is suitable for your user's applications. This conversion is optional, although the Enhanced Access Facility does offer improved performance.

The program named DLI_SEGM_INTER performs this conversion. (To upgrade from Basic to Enhanced Interfaces after you install DL/I, the only steps to perform are the optional conversion of Segment Layouts to new interfaces, and the corresponding changes to your application programs.)

To run the conversion program, select the Run a Program by Name option on the MANTIS Facility Selection menu and enter CONTROL:DLI_SEGM_INTER as shown in the following screen illustration. Press ENTER.

```
                 M   A   N   T   I   S
                 Program Selection

Specify the name of the required program :

  : control:dli_segm_inter              :


















                 (CANCEL to terminate)


```

After executing the program, the following screen displays:

```
                    DL/I Segment Descriptors
                 Conversion To Interfaces (New-Style)

      Do you wish to convert all, or selected, segment descriptors?

         Enter 'A' - to convert all segment descriptors
               'S' - to select individual segment descriptors




                      ( Press CANCEL to terminate )

                             :   :
```

Converting selected Segment Layouts

You can convert selected Segment Layouts by typing S and pressing
ENTER. MANTIS displays the following screen:

```
              DL/I Segment Descriptor List                  Page 1 OF 2
Act  Segment Name   Interface Name     Description                 Status
   ADDRESS                             EMPLOYEE ADDRESS DETAILS
   BILLING                             EMPLOYEE BILL SEGMENT
   DC_SEGMENT                          SEGMENT LAYOUT FOR 'DC'
   DLI_TEST_LAYOUT                     DLI TEST LAYOUT
   EMPL_EXPR                           EMPLOYEE AND EXPERIENCE SEGMENT
   EMPL_PROJ                           EMPLOYEE & PROJECT SEGMENTS
   EMPL_PROJ_BILL                      EMPLOYEE, PROJECT & BILL SEGS
   EMPLADRS                            EMPLOYEE ADDRESS DETAILS
   EMPLBILL                            EMPLOYEE BILL SEGMENT
   EMPLEXPR                            EMPLOYEE EXPERIENCE DETAILS
   EMPLOYEE                            EMPLOYEE SEGMENT
   EMPLOYEE_REC                        EMPLOYEE SEGMENT
   EMPLPROJ                            EMPLOYEE PROJECT DETAILS
   EMPLSLRY                            EMPLOYEE SALARY DETAILS
   EXPERIENCE                          EMPLOYEE EXPERIENCE DETAILS
   NUMBERS                             NUMBERS
   ORDERIN                             RECORDS ORDERS RECEIVED
   ORDITEM_LOGICAL                     ORDER / ITEM LOGICAL CHILD SEG.



Press 'PF12' or enter page '12' to execute selections, CANCEL to terminate
```

MANTIS displays a directory of segment names with their descriptions.
Each page can display up to 18 segments.

An action field (with the heading ACT) displays at the left of the screen.
You can add or replace Segment Layouts by typing A or R in this field
and pressing PF12. To specify a name other than the default Segment
Layout name for the interface, type the new name in the INTERFACE
NAME field. Names can be up to 16 characters.

To page through the listing, press the appropriate PF key, or type the
page number you want in the page field and press ENTER. MANTIS
executes your selections if you press PF12 or type the number 12 in the
page field and press ENTER.

When the operation is complete, MANTIS returns one of the following status message for each segment you marked:

♦ **ADDED.** Segment successfully added.

♦ **NT/ADDED.** Segment not added because interface already exists on the MASTER user.

♦ **CONVERTD.** Segment successfully converted.

♦ **NT/CONV.** You chose A for a segment already converted.

♦ **REPLACED.** An existing interface successfully replaced.

♦ **NT/REPL.** You chose R for a segment already converted.

♦ **OVER 158.** You converted a segment with more than 158 elements.

Converting all Segment Layouts

To convert all Segment Layouts, type the letter A on the option screen and press ENTER. MANTIS returns a confirmation message in the lower left of the screen when the process is complete, as shown in the following screen:

```
                    DL/I Segment Descriptors
                 Conversion To Interfaces (New-Style)

        Do you wish to convert all, or selected, segment descriptors?

            Enter 'A' - to convert all segment descriptors
                  'S' - to select individual segment descriptors

                     ( Press CANCEL to terminate )

                            : A :








        1 descriptors converted
```

To view a listing of the segments and statuses, type S and press ENTER. A screen like the following displays:

```
                 DL/I Segment Descriptor List              Page 1 of 2
Act Segment Name  Interface Name  Description                    Status
ADDRESS                           EMPLOYEE ADDRESS DETAILS       NT/CONV
BILLING                           EMPLOYEE BILL SEGMENT          NT/CONV
DC_SEGMENT                        SEGMENT LAYOUT FOR 'DC'        NT/CONV
DLI_TEST_LAYOUT                   DLI TEST LAYOUT                NT/CONV
EMPL_EXPR                         EMPLOYEE AND EXPERIENCE SEGMENT NT/CONV
EMPL_PROJ                         EMPLOYEE & PROJECT SEGMENTS    NT/CONV
EMPL_PROJ_BILL                    EMPLOYEE, PROJECT & BILL SEGS  NT/CONV
EMPLADRS                          EMPLOYEE ADDRESS DETAILS       NT/CONV
EMPLBILL                          EMPLOYEE BILL SEGMENT          NT/CONV
EMPLEXPR                          EMPLOYEE EXPERIENCE DETAILS    NT/CONV
EMPLOYEE                          EMPLOYEE SEGMENT               CONVERTED
EMPLOYEE_REC                      EMPLOYEE SEGMENT               NT/CONV
EMPLPROJ                          EMPLOYEE PROJECT DETAILS       NT/CONV
EMPLSLRY                          EMPLOYEE SALARY DETAILS        NT/CONV
EXPERIENCE                        EMPLOYEE EXPERIENCE DETAILS    NT/CONV
NUMBERS                           NUMBERS                        NT/CONV
ORDERIN                           RECORDS ORDERS RECEIVED        NT/CONV
ORDITEM_LOGICAL                   ORDER / ITEM LOGICAL CHILD SEG. NT/CONV


Press 'PF12' or enter page '12' to execute selections, CANCEL to terminate
```

Conversion considerations

DLI_SEGM_INTER automatically adds CALL_FUNCTION and CALL_PROFILE to the new interface and converts data types. Under the Old Interface Facility, elements do not necessarily match the Segment Layout. Under the Enhanced Interface Facility, elements must exactly reflect the old Segment Layout.

> **NOTE**
>
> Remember to include CALL_FUNCTION and CALL_PROFILE in new interfaces that you design.

When deciding which Segment Layouts to convert, consider the following:

♦ MANTIS converts up to 158 elements from a Segment Layout into a New Interface. The maximum number of elements in a Segment Layout is 192. MANTIS must truncate any elements beyond 158 when it creates the new interface.

♦ DLI_SEGM_INTER does not stop you from converting Segment Layouts that contain more than 158 elements. MANTIS, however, returns a status indicating when a Segment Layout exceeds the 158-element limit for interfaces.

♦ If you have more than 158 elements in a Segment Layout and still want to use the new interface, you can combine contiguous text elements into a single text element and break the larger element down in your application programs.

♦ You may need to make changes to your application programs. Because the new interface now represents the DL/I I/O area, the interface must exactly reflect the old Segment Layout. Consider a 4.0 application program that uses one interface, but contains a Call Profile (or Profiles) that points to multiple Segment Layouts. The Old Interface Facility does not need to match the Segment Layout because the Segment Layout represents the DL/I I/O area.

Under the enhanced version of MANTIS-DL/I, the same program needs multiple INTERFACE statements that exactly reflect the elements contained in the old Segment Layouts. (The new interface now represents the DL/I I/O area.) Your application programs have more INTERFACE statements, but performance improves because MANTIS does not have to retrieve Segment Layouts or convert data types.

The following screen illustration shows a Segment Layout:

```
                    DL/I Segment Layout Definition
Page 1                    Element Count 6              Segment Size 46
----------M A N T I S----- -------------- D L / I ----------------------
Element       Name         Type     Dim  Length  Decimal  Sign   Position
   1        SUPPNO         PACKED         8                         1
   2        SUPPNAME       TEXT           20                        9
   3        ORDNO          PACKED         5                         29
   4        ORDDATE        PACKED         4                         34
   5        DELDATE        PACKED         4                         38
   6        TOTAMT         PACKED         5         2       YES     42




                (Use PF1 - PF12 to page; use CANCEL to exit)
```

The following screen illustration shows the accompanying old interface:

```
                 MANTIS Interface Area Definition        YYYY/MM/DD
Name: SUPPL_VIEW                                          HH:MM:SS
      Page 1                 Element Count 5              Size 56
      Element    ------Name------  Data-Type  Dimensions  Attributes
         1       CALL_FUNCTION     TEXT          4
         2       CALL_PROFILE      TEXT          16
         3       SUPPNO            BIG
         4       SUPPNAME          TEXT          20
         5       TOTAMT            BIG




                (Use PF1 - PF12 to page; use CANCEL to exit)
```

Notice that the old interface gives you data independence. The interface
does not have to match the Segment Layout exactly. The conversion
program creates the following new interface from the previous Segment
Layout:

```
                  MANTIS Interface Area Definition              YYYY/MM/DD
Name: ORDERIN                                                    HH:MM:SS
Page: 1                  Element Count: 8            Element Size: 66
Element      Name        Type      Format Length Sign   Dec   Dim    Attribute
  1      CALL_FUNCTION   TEXT      TEXT     4
  2      CALL_PROFILE    TEXT      TEXT     16
  3      SUPPNO          BIG       PACKED   8
  4      SUPPNAME        TEXT      TEXT     20
  5      ORDNO           BIG       PACKED   5
  6      ORDDATE         BIG       PACKED   4
  7      DELDATE         BIG       PACKED   4
  8      TOTAMT          BIG       PACKED   5     YES    2



                    (Use PF1 - PF12 to page; use CANCEL to exit)
```

Running DEBUG and TRACE for RDM in MANTIS

SUPRA release 1.*x* RDM DEBUG facility prints out extensive information on RDM's processing. Debugging output can be quite large, especially during the opening of a view. Normally, you should turn on debugging only when requested by your Cincom Technical Service Center.

RDM debugging also includes RDM tracing output. RDM tracing prints out information on calls made by RDM to the physical database (PDM or VSAM). Under CICS, only one task at a time can use debugging and tracing.

Start DEBUG in MANTIS

To start DEBUG in MANTIS, perform the following:

1. Select Run a Program by Name and run CONTROL:TIS_DEBUG. (Optionally, you can run CONTROL:TIS_LUV_DEBUG, which is an older, identical program, maintained for backward compatibility.)

2. Run the program whose code you want to debug.

Stopping DEBUG in MANTIS

To stop DEBUG in MANTIS, select Run a Program by Name and run CONTROL:TIS_NODEBUG. Otherwise, DEBUG is automatically deactivated when you exit from MANTIS.

Starting TRACE in MANTIS

To start TRACE in MANTIS, perform the following:

1. Select Run a Program by Name and run CONTROL:TIS_TRACE.

2. Run the program whose code you want to trace.

Stopping TRACE in MANTIS

To stop TRACE in MANTIS, select Run a Program by Name and run CONTROL:TIS_NOTRACE. Otherwise, TRACE is automatically deactivated when you exit from MANTIS.

MEMORY_ON/MEMORY_OFF

The MEMORY_ON and MEMORY_OFF programs allow you to set FAULT trapping on or off to test for a particular FAULT condition, and cause a diagnostic abend when that FAULT condition occurs.

NOTE
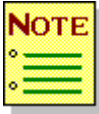
The MEMORY WAIT ON command must be run from the Line Editor (See "MEMORY WAIT" on page 120 for details). The MEMORY_ON and MEMORY_OFF programs can be run from Run A Program By Name, from another program, or can be included as Master User menu selections.

Running the MEMORY_ON program

The MEMORY_ON program does the same thing as executing the MEMORY WAIT ON command (with a FAULT condition) in the Line Editor.

When run, the MEMORY_ON program prompts you for a specific 3-character error code. If you enter no code, all codes are trapped. If you are running this program from a menu, or chaining to it, you can pass the 3-character code as a parameter on the CHAIN statement. For example:

```
00010 TEST_CODE="ABC"
00020 CHAIN "CONTROL:MEMORY_ON",TEST_CODE
```

If the code is passed as a parameter, the prompt is bypassed.

The MEMORY_ON program cannot be used in a background task, because a terminal I/O is executed (as part of the MEMORY command).

One of the ways to run the MEMORY_ON program is to select the Run a
Program by Name option on the MANTIS Facility Selection menu and
enter CONTROL:MEMORY_ON.

```
                    M  A  N  T  I  S
                     PROGRAM SELECTION

       SPECIFY THE NAME OF THE REQUIRED PROGRAM :

         : control:memory_on                   :
```

After executing the program, a screen displays prompting you for a
3-character FAULT code.

```
                          MEMORY_ON

















ENTER CODE TO TRAP, OR PRESS ENTER FOR ALL CODES
abc
```

If you enter ABC as a FAULT code and press ENTER, the program
returns the following message:

```
MEMORY WAIT ON "ABC"
FAULT TRAP ACTIVE
```

Running the MEMORY_OFF program

The MEMORY_OFF program does the same thing as executing the MEMORY WAIT OFF command in the Line Editor.

When run, the MEMORY_OFF program discontinues trapping for FAULT codes. You can run this program from a menu, or CHAIN to it. For example:

```
CHAIN "CONTROL:MEMORY_OFF"
```

The MEMORY_OFF program cannot be used in a background task, because a terminal I/O is executed (as part of the MEMORY command).

One of the ways to run the MEMORY_OFF program is to select the Run a Program by Name option on the MANTIS facility menu and enter CONTROL:MEMORY_OFF.

```
           M   A   N   T   I   S
              PROGRAM SELECTION

SPECIFY THE NAME OF THE REQUIRED PROGRAM :

  : control:memory_off               :




```

After executing the program, the following screen displays:

```
                          MEMORY_OFF










MEMORY WAIT OFF
FAULT TRAP OFF
```
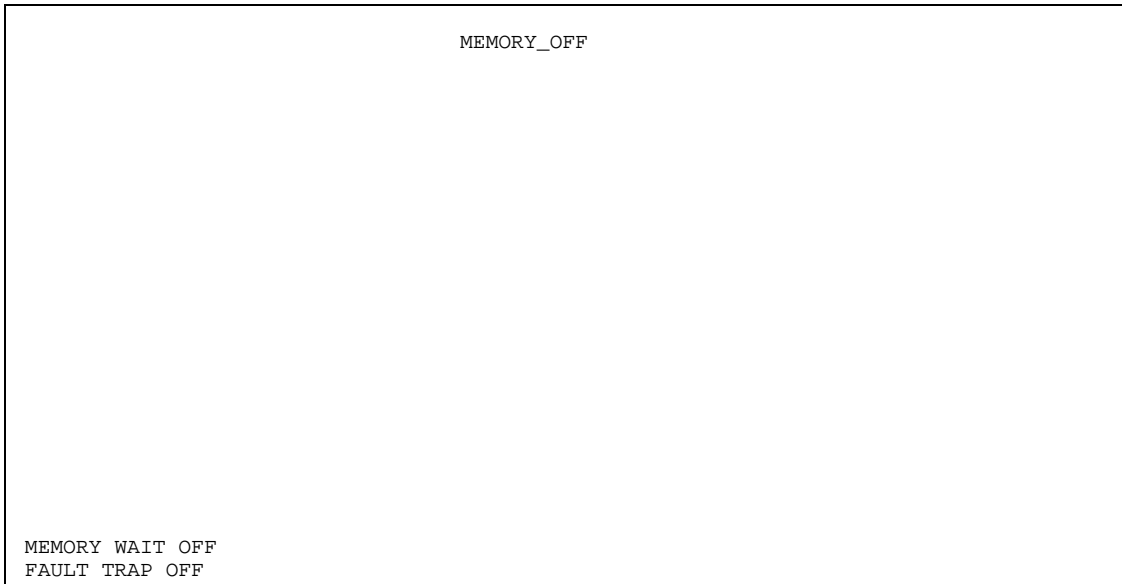
All FAULT-code trapping has been discontinued.

Batch Dialog Facility installation function

This section describes the features and operation of the Batch Dialog Facility (BDF) install process. The BDF is a command-driven interface that allows you to perform the following:

♦ Run several of the Program Design Facility (PDF) functions.

♦ Transfer entities in a batch environment.

♦ Upgrade your cluster in a batch environment.

For more information about PDF functions, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

The MANTIS Installation Wizard automatically runs the BDF install process to:

♦ Modify MANTIS support file external names.

♦ Modify the default user log.

♦ Modify CEF options.

♦ Insert or update MANTIS's Authorization record.

♦ Create program information records on the EEPR file.

If you need to add additional CPU-ID Authorization records to your MANTIS cluster, you can use the BDF install function to accomplish the task as a separate batch job. This saves time if you need to repeat this task for multiple MANTIS clusters. For more information, see "Batch Dialog Facility additional authorizations" on page 247.

Only the Master User can execute BDF Install and Authorize.

Initiate BDF by defining an input stream that specifies:

♦   Execution JCL

♦   Environment specifications for the batch job

♦   Sign-on as the Master User with your password

♦   Option 1, Run a Program by Name, from the MANTIS Facility
    Selection Menu

♦   The BDF start-up program, CONTROL:BATCH_DIALOG

♦   FUNCTION=INSTALL and its options

The batch input stream statements are similar to the MANTIS Print
Facility because they specify actual function and option statements,
instead of simulating an online session by mimicking cursor movement.
BDF reads the batch stream and executes the options you specify.

BDF checks the syntax of your statements and then executes the options
you entered in the input stream. When BDF encounters an error in the
input stream, it generates an error report but does not execute any
functions.

Creating the batch input stream

To create the batch input stream, perform the following:

1. Use the syntax presented in "FUNCTION statement" below and "OPTIONS statement" on page 226 to create the batch input stream. Each statement in the stream can be up to 72 characters. Verify that you do not place sequence numbers in columns 73–80.

2. When you have finished tailoring the JCL and batch input stream for your authorization additions, submit the job for execution.

FUNCTION statement

FUNCTION=INSTALL

Required. The FUNCTION statement specifies which function you want to perform. If no function is specified, the batch job terminates with an error. There is no default function.

Specify the FUNCTION statement as the first statement after the CONTROL:BATCH_DIALOG program specification.

When you specify the function as INSTALL, MANTIS allows no other functions for this job.

OPTIONS statement

OPTIONS=

The OPTIONS statement specifies the following:

♦ Either the facilities service level from which you are upgrading, or a new installation

♦ Other options used to update your cluster

OPTIONS=CEFCHAR=*x*

Description   *Optional.* Specifies the CEF suffix character, for source code programs, that will be set for each user on the cluster.

Considerations

♦ No CEF character will be set if both of the following are true:

- You are upgrading MANTIS or installing a new MANTIS.

- You do not specify CEFCHAR=.

♦ Applies only to FUNCTION=INSTALL.

OPTIONS=CPUID=*xxxxxxxxxxxxxxx*

Description   *Required*. Specifies the CPU ID to be authorized.

Considerations

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to insert or update a MANTIS Authorization Record.

- ♦ If the CPU ID record already exists on the MANTIS cluster, it will be updated.

- ♦ If the CPU ID record does not exist on the MANTIS cluster, it will be inserted.

- ♦ If this parameter is not supplied, BDF install ends with an error.

- ♦ Any CPU ID may be authorized.

- ♦ If the CPU ID supplied with the installation letter does not match the currently running CPU ID, there must be a valid Authorization record for the running CPU ID, or else MANTIS ends with an error. For details, see "Authorize MANTIS/Options Utility" on page 611.

OPTIONS=CSOL=*xxxxxxx*

Description   *Optional*. Specifies the DD name for the CSOL file.

Considerations

- ♦ The CSOL file is used for the background log file.

- ♦ If CSOL= is specified, the external file is updated with the specified DD name.

- ♦ If CSOL= is not specified, no change is made.

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=CURRENTSL=*xxxx*

Description   *Required.* When you are upgrading, specifies the service level from which the cluster is starting .

Considerations

- ◆ For an upgrade, specify one of the following, as appropriate:

  - CURRENTSL=5401

  - CURRENTSL=5501

- ◆ For a new installation, specify CURRENTSL=NEW.

- ◆ If this parameter is not supplied, BDF install ends with an error .

- ◆ Applies only to FUNCTION=INSTALL.

OPTIONS=EDPR=*xxxxxxxx*

Description   *Optional.* Specifies the DD name for the EDPR file.

Considerations

- ◆ The EDPR file is used for the Program Design Facility Dialog records file.

- ◆ If EDPR= is specified, the external file is updated with the specified DD name.

- ◆ If EDPR= is not specified, no change is made.

- ◆ Applies only to FUNCTION=INSTALL.

OPTIONS=EEPR=*xxxxxxxx*

Description   *Optional.* Specifies the DD name for the EEPR file.

Considerations

- ♦ The EEPR file is used for the Program Extended Entity Profile records file.

- ♦ If EEPR= is specified, the external file is updated with the specified DD name.

- ♦ If EEPR= is not specified, no change is made.

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=EHLP=*xxxxxxxx*

Description   *Optional.* Specifies the DD name for the EHLP file.

Considerations

- ♦ The EHLP file is used for the Program Design Facility Help records file.

- ♦ If EHLP= is specified, the external file is updated with the DD name specified.

- ♦ If EHLP= is not specified, no change is made.

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=ELOG=*xxxxxxx*

Description   *Optional.* Specifies the DD name for the EREF file.

Considerations

- ♦ The EREF file is used for the Program Design Facility Cross Reference records file.

- ♦ If EREF= is specified, the external file is updated with the specified DD name.

- ♦ If EREF= is not specified, no change is made.

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=ENDMANTIS=*yyyy/mm/dd*

Description   *Required.* Specifies the expiration date for the base product of MANTIS.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If the ENDMANTIS parameter is not supplied, BDF install ends with an error.

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the MASTER user to create a MANTIS Authorization Record.

OPTIONS=ETRG=xxxxxxxx

Description   *Optional.* Specifies the DD name for the ETRG file.

Considerations

- ♦ The ETRG file is used for the Program Design Facility Trigger Processing records file.

- ♦ If ETRG= is specified, the external file is updated with the specified DD name.

- ♦ If ETRG= is not specified, no change is made.

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=EXPADA=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for AD/Advantage II.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPADARDM=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for RDM generation in AD/Advantage II.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

    - Full date

    - Equal sign (=)

    - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPCE=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for Component Engineering (CE).

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

    - Full date

    - Equal sign (=)

    - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPDB2=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for MVS/ESA or OS390 DB2 access.

Considerations

♦ Specify date format as YYYY/MM/DD.

♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

- Full date

- Equal sign (=)

- Double-quote ("), as in a ditto mark

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPDBCS=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for Double Byte Character Support (DBCS) in MANTIS.

Considerations

♦ Specify date format as YYYY/MM/DD.

♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

- Full date

- Equal sign (=)

- Double-quote ("), as in a ditto mark

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPDLI=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for data access to DL/I.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote sign ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPHPO=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for the High-Performance Option (HPO).

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPET=*yyyy/mm/dd*

Description *Optional.* Specifies the expiration date for Entity Transformers (ET).

Considerations

♦ Specify date format as YYYY/MM/DD.

♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

- Full date

- Equal sign (=)

- Double-quote ("), as in a ditto mark

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPMQS=*yyyy/mm/dd*

Description *Optional.* Specifies the expiration date for WebSphere MQ Interface access.

Considerations

♦ Specify date format as YYYY/MM/DD.

♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

- Full date

- Equal sign (=)

- Double-quote ("), as in a ditto mark

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPMSF=*yyyy/mm/dd*

Description   *Optional*. Specifies the expiration date for the MANTIS Search Facility (MSF).

Considerations

♦ Specify date format as YYYY/MM/DD.

♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

- Full date

- Equal sign (=)

- Double-quote ("), as in a ditto mark

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPQRW=*yyyy/mm/dd*

Description   *Optional*. Specifies the expiration date for Query Report Writer (QRW).

Considerations

♦ Specify date format as YYYY/MM/DD.

♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

- Full date

- Equal sign (=)

- Double-quote ("), as in a ditto mark

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPRUNONLY=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for Run-Only MANTIS.

Considerations

- ◆ Specify date format as YYYY/MM/DD.

- ◆ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ◆ Applies only to FUNCTION=INSTALL.

- ◆ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPSAP=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for the SAP Access Facility.

Considerations

- ◆ Specify date format as YYYY/MM/DD.

- ◆ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ◆ Applies only to FUNCTION=INSTALL.

- ◆ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPSQLDS=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for VSE/ESA SQL/DS or DB2 access.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPSUPRA=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for SUPRA SQL Server access.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=EXPXREF=*yyyy/mm/dd*

Description   *Optional.* Specifies the expiration date for XREF (cross reference facility).

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If this expiration date is the same as the MANTIS base expiration date, you may enter one of the following:

  - Full date

  - Equal sign (=)

  - Double-quote ("), as in a ditto mark

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=IADB=*xxxxxxxx*

Description   *Optional.* Specifies the DD name for the IADB file.

Considerations

- ♦ The IADB file is used for:

    - Shared Program Pool

    - Preferred Terminal

    - Limited Terminal list

- ♦ If IADB= is specified, the external file is updated with the specified DD name.

- ♦ If IADB= is not specified, no change is made.

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=LANGUAGE=*xxx*

Description   *Optional.* Specifies the three-character language code that will be set for each user on the cluster.

Considerations

- ♦ No language code is set if both of the following are true:

    - You are upgrading from any other MANTIS service level or you are installing a new MANTIS.

    - You do not specify LANGUAGE=.

- ♦ MANTIS checks the language code to see if both of the following are true:

    - It is a valid, three-character language code.

    - A language set exists. (A language set includes screens, prompters, EDPR records, action records, and messages.)

- ♦ Applies only to FUNCTION=INSTALL.

OPTIONS=LEADDAYS=*xxx*

Description   *Optional.* Specifies the expiration warning lead days. Indicates how many days are left before MANTIS or a facility expires.

Default   60

Considerations

- ◆ Applies only to FUNCTION=INSTALL.

- ◆ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=LOGOPTION=*xxx*

Description   *Optional.* Specifies the CEF and program design logging option that will be set for each user on the cluster.

Considerations

- ◆ No logging option will be set if both of the following are true:

  - - You are upgrading MANTIS or installing a new MANTIS.

  - - LOGOPTION= is not specified.

- ◆ Applies only to FUNCTION=INSTALL.

OPTIONS=PASSWORD=*xxxxxxxx*

Description   *Required.* Specifies the authorization password.

Considerations

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

- ♦ If the password does not validate for the provided CPU ID, the terminal limit, and all of the supplied dates, MANTIS ends with an error. For details, see "Authorize MANTIS/Options Utility" on page 611.

OPTIONS=STARTMANTIS=*yyyy/mm/dd*

Description   *Required.* Specifies the earliest date that MANTIS can be used.

Considerations

- ♦ Specify date format as YYYY/MM/DD.

- ♦ If the STARTMANTIS parameter is not supplied, BDF install ends with an error.

- ♦ Applies only to FUNCTION=INSTALL.

- ♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=TERMINALS=*xxxxx*

Description *May be Required*. Specifies the number of licensed concurrent terminals allowed on MANTIS.

Default Zero

Considerations

♦ Applies only to FUNCTION=INSTALL.

♦ May only be used by the Master User to create a MANTIS Authorization Record.

OPTIONS=UEFC=*xxxxxxxx*

Description *Optional*. Specifies the DD name for the UEF import/export file.

Considerations

♦ The UEF import/export file is used to export and import entities from and into the MANTIS SetPray.

♦ If UEFC= is specified, the external file is updated with the specified DD name.

♦ If UEFC= is not specified, no change is made.

♦ Applies only to FUNCTION=INSTALL.

OPTIONS=UEFL=*xxxxxxxx*

Description   *Optional.* Specifies the DD name for the UEF log file.

Considerations

♦ The UEF log file is used to log exports and imports performed by UEF.

♦ If UEFL= is specified, the external file is updated with the specified DD name.

♦ If UEFL= is not specified, no change is made.

♦ Applies only to FUNCTION=INSTALL.

NOTE	The following parameters specify the information for inserting or updating the MANTIS Authorization Security Record:

Sample install batch input stream

The following is a sample batch input stream for running BDF install. In your JCL, do not include the comments in the right-hand (Comments) column.

Sample install batch input stream	Comments
`FUNCTION=INSTALL`	Selects the INSTALL function.
`OPTIONS=CURRENTSL=5401`	Indicates that user is upgrading from service level 5401.
`OPTIONS=LANGUAGE=ENU`	Sets language code as ENU.
`OPTIONS=LOGOPTION=YES`	Sets the CEF logging option.
`OPTIONS=CEFCHAR=@`	Sets the CEF suffix character.
`|   comments allowed`	Embeds a comment within the job stream.
`OPTIONS=IADB=XXXXIADB`	Specifies the IADB external file name.
`OPTIONS=CSOL=XXXXCSOL`	Specifies the CSOL external file name.
`OPTIONS=EDPR=XXXXEDPR`	Specifies the EDPR external file name.
`OPTIONS=EEPR=XXXXEEPR`	Specifies the EEPR external file name.
`OPTIONS=EHLP=XXXXEHLP`	Specifies the EHLP external file name.
`OPTIONS=ELOG=XXXXELOG`	Specifies the ELOG external file name.
`OPTIONS=EREF=XXXXEREF`	Specifies the EREF external file name.
`OPTIONS=ETRG=XXXXETRG`	Specifies the ETRG external file name.
`OPTIONS=UEFC=XXXXUEFC`	Specifies the UEFC export file name.
`OPTIONS=UEFL=XXXXUEFL`	Specifies the UEFL log file name.
`OPTIONS=CPUID=1234567890000000`	Specifies the CPU-ID to be authorized.
`OPTIONS=PASSWORD=12345678`	Specifies the PASSWORD for authorization.
`OPTIONS=TERMINALS=25`	Specifies the number of licensed terminals. (For unlimited terminals, enter TERMINALS=0.)
`OPTIONS=LEADDAYS=60`	Specifies the number of warning lead days.
`OPTIONS=ENDMANTIS=2001/12/31`	Specifies MANTIS base expiration.
`OPTIONS=STARTMANTIS=2000/12/01`	Specifies MANTIS starting date.
`|   equal sign (=) are allowed`	(The equal sign copies the MANTIS base expiration date.)
`OPTIONS=EXPDLI==`	Specifies DL/I access expiration date.

Sample install batch input stream	Comments
`|   double quote (") is allowed`	(The double quote copies the MANTIS base expiration date.)
`OPTIONS=EXPADARDM="`	Specifies AD/Advantage II RDM Gen expiration.
`OPTIONS=EXPDBCS=2001/12/31`	Specifies DBCS support expiration.
`OPTIONS=EXPQRW=2001/12/31`	Specifies Query Report Writer expiration.
`OPTIONS=EXPRUNONLY=2000/12/31`	Specifies Run Only MANTIS expiration.
`OPTIONS=EXPDB2=2001/12/31`	Specifies DB/2 access expiration.
`OPTIONS=EXPSQLDS=2001/12/31`	Specifies SQL/DS access expiration.
`OPTIONS=EXPSUPRA=2001/12/31`	Specifies SUPRA access expiration.
`OPTIONS=EXPET=2001/12/31`	Specifies Entity Transformers expiration.
`OPTIONS=EXPXREF=2001/12/31`	Specifies XREF expiration.
`OPTIONS=EXPHPO=2001/12/31`	Specifies High Performance Option (HPO) expiration.
`OPTIONS=EXPCE=2001/12/31`	Specifies Component Engineering expiration.
`OPTIONS=EXPADA=2001/12/31`	Specifies AD/Advantage II expiration.
`OPTIONS=EXPMSF=2001/12/31`	Specifies MANTIS Search Facility expiration.
`OPTIONS=EXPSAP=2001/12/31`	Specifies SAP Access Facility expiration.
`END`	ENDs the job stream.
`<PA2>`	Issues CANCEL to end the program.
`<PA2>`	Issues CANCEL to end the program.
`<PA2>`	Issues CANCEL to logoff MANTIS.

Batch Dialog Facility additional authorizations

If you need to add additional CPU-ID Authorization records to your MANTIS cluster, you can use the BDF Install function to accomplish the task as a separate batch job. In case you need to repeat this task for multiple MANTIS clusters, this saves time.

Perform the following:

1. Specify FUNCTION=INSTALL for the function.

2. Specify the Authorize option.

OPTIONS=AUTHORIZE

Description   *Required.* Specifies that you are adding additional Authorization Records to your MANTIS cluster.

Considerations

♦   Applies only to FUNCTION=INSTALL.

♦   May only be used by the Master User to create a MANTIS Authorization Record.

♦   Specifies that a "full installation" is not being performed—only a MANTIS Authorization Record is to be inserted or updated.

♦   If the Authorization record already exists on the MANTIS cluster, it is updated.

♦   If the Authorization record does not already exist on the MANTIS cluster, it is inserted.

♦ If the CPU ID supplied in the batch input stream does not match the currently running CPU ID, there must be a valid Authorization record for the running CPU ID. Otherwise, MANTIS ends with an error. For details, see "Authorize MANTIS/Options Utility" on page 611.

♦ When you specify OPTIONS=AUTHORIZE, you may include only the following options:

```
CPUID=xxxxxxxxxxxxxxx
PASSWORD=xxxxxxxx
TERMINALS=xxxxx
LEADDAYS=xxx
ENDMANTIS=yyyy/mm/dd
STARTMANTIS= yyyy/mm/dd
EXPDLI= yyyy/mm/dd
EXPADARDM= yyyy/mm/dd
EXPDBCS= yyyy/mm/dd
EXPQRW= yyyy/mm/dd
EXPRUNONLY= yyyy/mm/dd
EXPDB2= yyyy/mm/dd
EXPSQLDS= yyyy/mm/dd
EXPSUPRA= yyyy/mm/dd
EXPET= yyyy/mm/dd
EXPXREF= yyyy/mm/dd
EXPHPO= yyyy/mm/dd
EXPCE= yyyy/mm/dd
EXPADA= yyyy/mm/dd
EXPMSF= yyyy/mm/dd
EXPSAP= yyyy/mm/dd
EXPMQS= yyyy/mm/dd
```

Sample authorization batch input stream

The following is a sample batch input stream for installation functions to insert or update a MANTIS Authorization Record. In your JCL, do not include the comments in the right-hand (Comments) column.

New install input stream (MNIBDFNW)	Comments
`MASTER;password;`	Specifies the environment for the batch job.
`1`	Selects the Run a Program By Name option (option 1).
`CONTROL:BATCH_DIALOG`	Runs the CONTROL:BATCH_DIALOG program.
`FUNCTION=INSTALL`	Selects the INSTALL function.
`OPTIONS=AUTHORIZE`	Adds an Authorization Record.
`OPTIONS=CPUID=1234567890000000`	Specifies the CPU ID to be authorized.
`OPTIONS=PASSWORD=12345678`	Specifies the PASSWORD for authorization.
`OPTIONS=TERMINALS=25`	Specifies the number of licensed terminals. (For unlimited terminals, enter OPTIONS=TERMINALS=0.)
`OPTIONS=LEADDAYS=60`	Specifies the number of warning lead days.
`OPTIONS=ENDMANTIS=2001/12/31`	Specifies MANTIS base expiration.
`OPTIONS=STARTMANTIS=2000/12/01`	Specifies MANTIS starting date.
`| equal sign (=) is allowed`	(The equal sign copies the MANTIS base expiration date.)
`OPTIONS=EXPHPO==`	Specifies High Performance Option.
`| double quote (") is allowed`	(The double quote copies the MANTIS base expiration date.)
`OPTIONS=EXPMSF="`	Specifies MANTIS Search Facility.
`END`	ENDs the job stream.
`<PA2>`	Issues Cancel to end the program.
`<PA2>`	Issues Cancel to end the program.
`<PA2>`	Issues Cancel to logoff MANTIS.

Batch Dialog return codes for MVS

The Batch Dialog Facility provides a return code, indicating a run status, in the MVS environment. The following table lists return codes:

Code	Description
0	Successful run.
4	One of the following occurred: ♦ The specified entity or entities were not found. ♦ An inconsistent (HPO)CHECK, CEFCHECK or SQLCHECK was found. Process continues.
8	One of the following occurred: ♦ Failure to create one or more trigger records. ♦ Failure while executing a trigger record or executing an SQLBIND function. ♦ Failure in executing one or more functions. You should examine output. Process continues.
12	One of the following occurred: ♦ Error raised on Syntax/Input Stream. ♦ Necessary files unavailable for update. You should examine output. Job canceled. Input Validation Report printed.
16	System error. You should check for errors. No program output produced.
20	Out of input job stream data. (Usually occurs when you place only one or no <PA2> at the end of the batch input stream to end the program.) You should verify that all functions were executed.

4

MANTIS customization and maintenance

MANTIS can be customized for your environment as part of the install process and after installation is complete. This chapter provides information on the customization parameters as well as what Cincom provided JCL and source samples you need.

NOTE
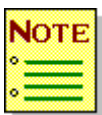
For information on how to install MANTIS, refer to the appropriate startup guide for your environment (*MANTIS Installation, Startup, and Configuration, MVS/ESA, OS/390,* P39-5018 or *MANTIS Installation, Startup, and Configuration, VSE/ESA,* P39-5019).

Customization Macro

The MANTIS Customization Macro allows you to specify custom parameters beyond the normal operation of MANTIS. If the default values are satisfactory for your installation, you do not need to change any parameters in the Customization Macro. You are strongly encouraged to set up at least one pair of transids. See "Paired TRANSIDs" on page 39 for an explanation of how paired transids function.

Modify the default macro for each MANTIS you want to customize, then assemble and link it as part of your installation. You can have different customizations for different copies of MANTIS (such as batch vs. online, test vs. production). Attributes in this macro are described below.

Sample Customization Macro (MVS)

General considerations

♦ Many of these Customization Macro options are converted to flags at assembly time and copied at user sign-on. It may no longer be sufficient to zap these values in the load module for the new option to take effect. Reassembly and relink-edit is required to guarantee the options are in effect.

♦ CSOPCUST must be linked last in the MANTIS load module so modifying values and relinking MANTIS does not cause rolled-out tasks to abend upon roll-in.

If you wish to make modifications to the customization module in MANTIS after installation is complete, this can be done in two ways. The member CSOPCUST in the sample source library contains all of the parameters necessary for your environment along with their default values. You can modify this member by changing what parameters are necessary and then use the MVJASML sample JCL member as a basis to create the JCL necessary to assemble and link CSOPCUST. Alternately you can code the macro statement C$OPCUST specifying only those parameters that you want changed. Remember to place a continuation character (X) in column 72 on all lines prior to the last line of the macro statement. The MANTIS macro library should be specified in your SYSLIB statement in your assemble and link JCL. After assembling and linking the Customization macro, you must relink MANTIS for the changes to take effect.

Sample Customization Macro (VSE)

General considerations

◆ Many of these Customization Macro options are converted to flags at assembly time and copied at user sign-on. It may no longer be sufficient to zap these values in the load module for the new option to take effect. Reassembly and relink-edit is required to guarantee the options are in effect.

◆ CSOPCUST must be linked last in the MANTIS load module so modifying values and relinking MANTIS does not cause rolled-out tasks to abend upon roll-in.

If you wish to make modifications to the customization module in MANTIS after installation is complete, this can be done in two ways. The member CSOPCUST.A in the installation sublibrary contains all of the parameters necessary for your environment along with their default values. You can modify this member by changing what parameters are necessary and then use the MYJASMC.JCL sample as a basis to create the JCL necessary to assemble and catalog CSOPCUST.OBJ. Alternately you can code the macro statement C$OPCUST specifying only those parameters that you want changed. Remember to place a continuation character (X) in column 72 on all lines prior to the last line of the macro statement. The MANTIS installation sublibrary should be specified in your library search chain. After assembling and cataloging the Customization macro, you must relink MANTIS for the changes to take effect.

Customization Macro quick reference table

As a quick reference, the following table lists alphabetically all the parameters in the Customization Macro. One asterisk (*) next to the parameter name means the parameter is new to this release; two asterisks (**) next to the parameter name means the parameter has changed with this release. See the information with each parameter for a complete description about the parameter.

Parameter	Description
ADAII=	Allows a scroll across an external DO by allocating a dummy SHOW statement.
ATTRALL=	Makes restricted ATTRIBUTE statements and functions available to all users.
AWINDOW=	Auto-windowing command string.
BKTRANS=	Transaction ID (TRANSID) for a background task.
CANCEL=	Key for CANCEL.
CICSDTB=	For a non-DTB environment on CICS.
CICSMRO=	Reserved for future use.
CICSPLX=**	Indicates that MANTIS is used in a CICSPLEX environment.
CKMPSET=*	Determines if the FALSE condition is returned on the CURSOR function, if a screen is not contained in a map set.
CLVSAM=*	Determines if all open VSAM files should be closed on COMMIT in batch.
CMDIAG=**	Provides diagnostic information. Disables MANTIS issuing a CICS handle ABEND.
COMFACE=	Issues a COMMIT at next I/O if an interface program was called.
CSOL=	FCT name for the MANTIS background task journal file.
CSOT=	FCT name for Transfer File.

*   New in this release.
**   Changed in this release.

Parameter	Description
CURPRFL=*	Allows the programmer to position the cursor on a protected field.
DATEFMT=	Default system date format.
DUMMY=	Marks end of the Customization Macro.
ENOTE=	Allows E notation in unmasked numeric input.
ENOTEMAX=*	Number of significant digits displayed in unmasked numeric input.
EXCLUDE=	Interfaces to exclude from being called or performed by a MANTIS routine.
FLTBOR=	Program bound in an older release of MANTIS runs without being rebound.
GLBLMOD=	Global module used to make MANTIS nonresident.
INCLUDE=	Interfaces you want to link with MANTIS.
KILL=	Keyword for KILL function.
LANG=	Specifies the default 3-character System Language Code for Native Language Support.
MANTPROG=*	Mantis program name, as defined in the CICS RDO tables.
MASKCHR=	Default data mask character for screen design and the FORMAT built-in function.
NUM2TXT=*	Convert large numeric fields to internal TEXT fields.
PCHNROL=	Roll/not roll option for Local Program Pool at a terminal I/O.
POSITIV=	Display CR and DR in edit masks.

*   New in this release.
**   Changed in this release.

Parameter	Description
PRTCOL=	Set printer column width.
PRTDISC=	Printer disconnect requested.
PRTFBOT=*	Set form feed at bottom of printer data stream.
PRTFTOP=*	Set form feed at top of printer data stream.
PRTRANS=	Transaction ID (TRANSID) for a printer task.
RECHECK=	TOTAL views and bound RDM views checked for consistency on every execution of TOTAL and VIEW statements, or once per TP monitor execution.
RELEASE=	Releases RDM logical views on CHAIN or RUN statements.
RESETOT=*	Allows TOTAL/PDM database updates to be backed out with the TOTAL/PDM RESET request.
RETRY=	Number of HELD/SRTL (for TOTAL and PDM) retries MANTIS performs before a HELD status is returned.
ROLLMEM=	Which type of CICS temporary storage is used for rolled out memory (pseudoconversational tasks).
SHRPMOD=	Name of the Shared Pool module used as a segment in the Shared Pool.
SOSI=	EBCDIC and DBCS characters can be stored in the same string by use of Shift In/Shift Out characters.
SOSICD=	Character type for Shift In/Shift Out.
SPSIZE=	Size of the Shared Pool segments.
SQLAUTO=	Automatically switches MANTIS SQL programs to dynamic execution mode.
SQLCONN=	Automatic connect to SQL database.

*   New in this release.
**   Changed in this release.

Parameter	Description
SQLDANM=	Default number of internal SQLDAs defined.
SQLDARO=	Roll/not roll option for SQLDA areas at a terminal I/O.
SQLDBNM=	Default SUPRA SQL database name.
SQLINCR=	Dynamic storage increment used by MANTIS SQL support.
SQLINIT=	Dynamic storage initial size used by MANTIS SQL support.
SQLNDTA=	Clear MANTIS data area if the data returned by SQL is NULL.
SQLPSWD=	Default SQL sign-on password.
SQLRLSE=	Release SQL connect at CHAIN, and so on.
SQLUPAD=	Eliminate trailing blanks from character data returned by SQL.
SQLUSER=	Default SQL sign-on user name.
SQLVAR=	Default number of repeating elements in the physical SQLDA structure.
STATCNT=	Number of nonshared programs and nonshared DL/I call profiles to keep statistics on.
STORHLD=	GETMAIN storage, no longer needed, is FREEMAIN, or held for possible reuse.
STRLENC=	MANTIS compares strings by length first, or character-by-character first.
TDSCOMP=	Controls terminal datastream compression.
TEQUERY=**	Handles terminal query in CICS and CMS environments.
TERMFUNC=*	Specifies whether the TERMINAL keyword returns the CICS terminal ID or the VTAM netname.
TERMRTN=	Program ID identifying a non-MANTIS termination routine for online environments.

*   New in this release.
**   Changed in this release.

Parameter	Description
TIMEFMT=	Default system time format.
TISLVL=**	Current TIS or SUPRA release level.
TOTINT=	Handles TOTAL and PDM from the same MANTIS programs.
TRANSID=	Transaction code(s) (TRANSIDs) for MANTIS. Can be paired.
TRCODE=	Allows MANTIS to perform uppercase/lowercase translation.
TSSYSID=	Specifies the name of the CICS system where MANTIS temporary storage requests will be routed.
WAINCR=	Increment value for the Program Work Area (PWA) and Data Work Area (DWA).
WAINIT=	Initial size of the Program Work Area (PWA) and Data Work Area (DWA).
XA=	External programs capable of running above the 16 MB line.
XPRTIOA=	Allows a data stream of more than 1920 bytes to be passed to CSOXPRNT.

*   New in this release.
**   Changed in this release.

Customization Macro parameter descriptions

Parameters in the Customization Macro apply to the Transaction Server (CICS), OS/390, Z/OS, and VSE/ESA environments.
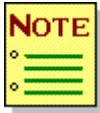
NOTE	When the options for parameters are Y or N, you also can specify YES and NO for valid options.

ADAII

Description	Allow a scroll across an external DO by allocating a dummy SHOW statement at the higher DOLEVEL.
Default	N
Options	Y Sets a dummy SHOW statement at the higher DOLEVEL; therefore eliminating the need for coding the SHOW statement programmatically. Required when running AD/Advantage II.
	N Makes no change to external programs.

ATTRALL=

Description Make MASTER user reserved ATTRIBUTE statements and functions available to all users.

Default N

Options Y Makes the following attribute statements and functions available to all users:

Statements
```
ATTRIBUTE(TERMINAL)=e1,e2 ...
ATTRIBUTE(map,(row,col))=e1,e2 ...
```

Functions
```
ATTRIBUTE(map,(row,col))
MODIFIED(map,(row,col))
CURSOR(map,(row,col))
```

N Restricts the previous statements and functions to MASTER users only.

Considerations

♦ If this parameter is N and a non-MASTER user attempts to use any of these statements or functions, an error message displays saying the function or statement is restricted.

♦ Terminal errors may result if the ATTRIBUTE statement is used to set attributes that the terminal cannot handle.

♦ See "Reserved statement and function options" on page 110 for information on the reserved statements and functions for the Master User.

AWINDOW=

Description	Indicates which auto-windowing command string can be input into the Key Simulation Field to place the terminal into automatic windowing mode for a one-time only windowing command.
Default	AW
Options	AW
	xxxxxx (up to 6 characters)
	, or null (auto windowing does not work)
Consideration	If you use AW and press PF9, the display is scrolled so that the cursor position (if it is in the screen) is moved to position 1,1.
Example	In the Directory Facility, the directory listing is a screen larger than 24x80. The full name of the entity is in a column to the right of the normal view. To display the full name (and full description), activate window mode by placing a W in the Key Simulation Field and pressing ENTER. PF11 moves your display to the right, showing the full name column. You must press PF9 to get out of windowing mode.
	Instead of activating windowing mode, you can put the auto-windowing command string (default AW) in the Key Simulation Field and press PF11 to move your display to the right and display the full name column. Using this option, you do not have to activate and disable window mode to move the display when the defined screen is larger than the physical display of your terminal.

BKTRANS=

Description   Specifies the transaction ID (TRANSID) for a background task.

Consideration for CICS

This parameter is used when no transaction identifier is defined in the
PERFORM statement. It is optional, and if not present, the resume
transaction identifier will be used.

CANCEL=

Description   Indicates which key means CANCEL.

Default   PA2

Consideration To use a PF key, make sure it does not conflict with existing or planned
software.

CICSDTB=

Description	Specifies handling for non-DTB environment.
Default	Y
Options	Y Enable CICS syncpoint processing when MANTIS is configured for DTB.
	N Disables CICS SYNCPOINT ROLLBACK processing for a RESET statement in non-DTB environment.

Considerations

- ♦ You should use CICSDTB=Y for MANTIS.

- ♦ CICSDTB=N prevents CICS ASPE abends when MANTIS is not configured for Dynamic Transaction Backout.

CICSMRO=

Restriction	Reserved for future use.

CICSPLX=

Description	Provides for MANTIS to run in a CICSPLEX environment.
Default	N
Options	Y Enable MANTIS to run in a CICSPLEX environment.
	N MANTIS will not run in a CICSPLEX environment.
Consideration	Tempstorage must be defined either in a data owing region (DOR) or in a temp storage owing region (TSOR). This is required in CISPLEX to ensure correct pseudo-conversational processing. This is a CICSPLEX administration requirement.
	The MANTIS VSAM cluster, Setpray, must be defined in a data owing region (DOR) and not defined in any of the Application Owning Regions (AOR).
	The CSOPGLBL module must be loaded at PLT time. Start the Cincom supplied module CSOXISPB in each Application Owning Region (AOR) at PLT time to ensure that all CSOPGLBL modules are loaded.

CKMPSET=

Restriction	None
Description	The CURSOR function will be set to FALSE if any screen used in a CONVERSE statement is not a member of the current map set.
Default	Y
Options	Y Return the FALSE condition to the CURSOR function.
	N Does not return the FALSE condition to the CURSOR function. With this option, no check is made if the screen is a member of the current map set.
Consideration	N should only be used in special cases. Using N as an option gives the same functionality as Mantis release 4.2. This option replaces fix 981127 as applied to MANTIS 5.4.

CLVSAM=

Restriction	Applies to Batch and TOTAL only.
Description	Determines if all open VSAM files should be closed on COMMIT.
Default	Y
Options	Y All open VSAM files are closed on COMMIT .
	N Open VSAM files are not closed on COMMIT.
Consideration	If any VSAM file is defined with SHARE OPTIONS 3, only the default value can be used. If N is specified then performance of the batch application may be improved, but data integrity is compromised if the application terminates pre-maturely. Specifying N provides the same functionality as fix 990321 for MANTIS release 5401.

CMDIAG=

Restriction	Applies to CICS.
Description	Provides additional diagnostic information.
Default	N
Options	Y Suppresses MANTIS issuing an EXEC CICS HANDLE ABEND
	N MANTIS issues an EXEC CICS HANDLE ABEND
Consideration	Change the default to Y only if directed by Cincom.

COMFACE=

Description Issues a COMMIT at next I/O if an interface program was called.

Default N

Options Y MANTIS issues a COMMIT and a syncpoint at the next terminal I/O following a call to an interface program.

N MANTIS COMMIT logic unchanged. For example, a CONVERSATIONAL MANTIS task will NOT issue a syncpoint at terminal I/O unless file or database updates have occurred.

If file or database updates have occurred, then a COMMIT/SYNCPOINT will be issued. A syncpoint will be issued automatically at the end of the task, but this does not imply a COMMIT. In a CONVERSATIONAL MANTIS task, an explicit COMMIT would need to be issued if updates are uncommitted within an interface program. A PSEUDOCONVERSATIONAL MANTIS task will issue a syncpoint at every terminal I/O. A COMMIT will be issued at a terminal I/O only if there were file or database updates. An explicit COMMIT would need to be issued if updates are uncommitted in an interface program.

CSOL=

Restriction	It applies to CICS users who use MANTIS background tasks. See "MANTIS background task log file (CSOL)" on page 128 for more information.
Description	Indicates CICS file name for the MANTIS background task journal.
Default	CSOL
Consideration	You can change the journal name to avoid conflicts with the names of user files.

CSOT=

Description	Indicates CICS file name for Transfer File.
Default	CSOT
Consideration	This parameter allows you to change the name of the Transfer File to avoid conflicts with the names of user files. This file name appears on the Transfer Facility main menu and can be temporarily changed at that time.

CURPRFL=

Restriction	None.
Description	Allows the programmer to position the cursor on a protected field.
Default	N
Options	Y Cursor can be positioned in a protected field.
	N The programmer cannot position the cursor in a protected field.
Consideration	Y should only be used in special cases when you need the cursor to be placed in a protected field. Customers who had fix 980249 applied to their 5401 MANTIS should use Y.
Example	ATTRIBUTE(Screen,ProtFieldname)="Cur"

DATEFMT=

Description   Specifies the date format mask for the default DATE of the system.

Default   *YY/MM/DD*

Format   1–12 alphanumeric characters. You must enclose the mask in single quotes. Uppercase and lowercase characters are recognized for the mask.

Options   *YY* or *yy*   2-digit year—00–99

YYYY or *yyyy*   4-digit year—0000–9999

MM or *mm*   2-digit month—01–12

DD or *dd*   2-digit day of month—01–31

DDD or *ddd*   3-digit date for Julian date—000–366

xxx   other characters, spaces and delimiters (such as - or /)

Considerations

♦   This parameter sets the systemwide default for how date displays when you use the DATE function.

♦   Setting this parameter does not affect CONTROL programs. The date format for CONTROL programs is always *YYYYMMDD*.

♦   You can change the format in your program with DATE=format-mask. Refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002, for more information on the DATE function.

♦   If you do not enclose the format mask in single quotes, any character past the first space or punctuation character found in the format mask is ignored, giving you an error or unpredictable results.

♦   The DATE format is maintained down DO/CHAIN levels. When CHAIN (without LEVEL) is encountered, the format is reset to the DATEFMT format defined in CSOPCUST. When programming mode is entered or exited, the format is also reset.

Examples

```
DATEFMT='MM-DD-YY'    DATEFMT='YY.DDD'     DATEFMT='YYYY/MM/DD'
SHOW DATE             SHOW DATE            SHOW DATE
01-01-92              92.001               1992/01/01
```

DUMMY=

Description   Used as the end of the keyword operand.

Consideration By using the DUMMY= parameter at the end of the keywords, you can delete or add lines within the range without having to delete, or add, trailing commas and an X in column 72.

Example
```
C$OPCUST Option1= ...,          X
        Option2= ...,           X
        Option3= ...,           X   <== insert or delete any
        Option4= ...,           X       option(s) and always
        Option5= ...,           X       put trailing comma and
        Option6= ...,           X       X in column 72.
        Dummy=
```

ENOTE=

Description   Specifies if E notation is allowed in unmasked numeric input fields (all ##). Prevents scientific notation data from being entered in unmasked numeric fields when N. Refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002, for a discussion on scientific notation.

Default   N

Consideration If you do not specify Y and try to enter a number in E notation, you receive an error message.

ENOTEMAX=

Description Specifies the number of significant digits displayed in:

- A numeric Literal field in program code

- An unformatted numeric value in a SHOW statement

This affects the display and encoding of numeric literals in the following:

- AD/Advantage program templates

- ALTER programming command

- Source program COMPOSEd with COMPONENTS

- Full Screen Editor—Change, COPY, MOVE, or keying source

- INT function rounding factor

- LIST programming command

- MANTIS Print Facility

- MANTIS Search Facility

- Rounding of fractional numbers (especially SMALL variables)

- Universal Export Facility

- XREF

Default   14

Options   9   Use this option for:

- ♦   MANTIS 4.x compatibility

- ♦   MANTIS 5220 compatibility when Fix 932689 is applied

- ♦   MANTIS 5301 compatibility when Fix 960535 is applied

- ♦   MANTIS 5401 compatibility

14   Use this option for:

- ♦   MANTIS 5220 compatibility when Fix 932396 is applied

- ♦   MANTIS 5301 compatibility

- ♦   MANTIS 5401 compatibility when Fix 971083 and Fix 980147 are applied

16   Use this option for:

- ♦   MANTIS 4.25 compatibility when Fix 861580 is applied

- ♦   MANTIS 5220 compatibility

Considerations

♦ **Option 9.** When using this option:

Specifying 9 will display up to 9 digits in an unformatted numeric data field. A number greater than 9 digits will display in E-notation.

Example 1: A 12-digit numeric field entered in an FSE (Full Screen Editor) program:

```
10 BIG FIELDA
20 FIELDA=123456789012
```

Example 2: The 12-digit numeric field from Example 1, LISTed and re-encoded:

```
10 BIG FIELDA
20 FIELDA=.123456789E12
```

Using option 9 and entering a numeric field greater than 9 digits may result in a loss of precision in the stored and displayed number. Because FIELDA was 12 digits long, it was stored in E-notation, as shown in line 20 of Example 2, above: .123456789E12.

MANTIS FSE will re-encode the numeric field from the E-notation display of the number (FSE re-encodes all of the lines on a screen whenever any fields are updated). In this case, the original number was 123456789012, as shown in line 20 of Example 1, above. Therefore, the number loses precision beyond the 9-digit display limit.

Numbers of up to 9 digits are encoded and re-encoded precisely, within the limits of the floating point. For example, 1234567 would encode, display, and re-encode without loss of precision.

NOTE	For more information about numeric significance and E-notation, refer to the section covering scientific notation in *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

♦ **Option 14.** When using this option:

Specifying 14 will display up to 14 digits in an unformatted numeric data field. A number greater than 14 digits will display in E-notation.

Example 1: A 15-digit numeric field entered in an FSE (Full Screen Editor) program:

```
10 BIG FIELDA
20 FIELDA=123456789012345
```

Example 2: The 15-digit numeric field from Example 1, LISTed and re-encoded:

```
10 BIG FIELDA
20 FIELDA=.12345678901234E15
```

Using option 14 and entering a numeric field greater than 14 digits may result in a loss of precision in the stored and displayed number. Because FIELDA was 15 digits long, it was stored in E-notation, as shown in line 20 of Example 2, above: .12345678901234E15.

MANTIS FSE will re-encode the numeric field from the E-notation display of the number (FSE re-encodes all of the lines on a screen whenever any fields are updated). In this case, the original number was 123456789012345, as shown in line 20 of Example 1, above. Therefore, the number loses precision beyond the 14-digit display limit.

Numbers of up to 14 digits are encoded and re-encoded precisely, within the limits of floating point. For example, 123456789012 would encode, display, and re-encode without loss of precision.

NOTE	For more information about numeric significance and E-notation, refer to the section covering scientific notation in *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

♦ **Option 16.** When using this option:

Specifying 16 will display up to 16 digits in an unformatted numeric data field. A number greater than 16 digits will display in E-notation.

Example 1: A 17-digit numeric field entered in an FSE (Full Screen Editor) program:

```
10 BIG FIELDA
20 FIELDA=12345678901234567
```

Example 2: The 17-digit numeric field from Example 1, LISTed and re-encoded:

```
10 BIG FIELDA
20 FIELDA=.1234567890123456E17
```

Using option 16 and entering a numeric field greater than 16 digits may result in a loss of precision in the stored and displayed number. Because FIELDA was 17 digits long, it was stored in E-notation, as shown in line 20 of Example 2, above: .1234567890123456E17.

MANTIS FSE will re-encode the numeric field from the E-notation display of the number (FSE re-encodes all of the lines on a screen whenever any fields are updated). In this case, the original number was 12345678901234567, as shown in line 20 of Example 1, above. Therefore, the number loses precision beyond the 16-digit display limit.

Numbers of up to 16 digits are encoded and re-encoded precisely, within the limits of the floating point. For example, 12345678901234 would encode, display, and re-encode without loss of precision.
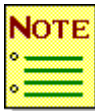
> **NOTE**
>
> A side effect of using option 16 is that computed SMALL numbers may need to be ROUNDED in order to compare EQUAL to constants.
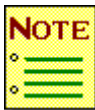
> **NOTE**
>
> For more information about numeric significance and E-notation, refer to the section covering scientific notation in *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

EXCLUDE=

Description   Indicates which interfaces you want to exclude from being called or performed by a MANTIS routine.

Considerations

- ♦ You can use this parameter for security purposes.

- ♦ Because the assembler limits operand string lengths to 255, you can invoke C$OPCUST EXCLUDE= multiple times, if needed.

Examples

```
C$OPCUST .... any parameters
C$OPCUST EXCLUDE=(xxxx1,xxxx2,xxxx3)
C$OPCUST EXCLUDE=(xxxx4,xxxx5,xxxx6)
C$OPCUST EXCLUDE=(xxxx7,xxxx8,xxxx9)
```

FLTBOR=

Description   Indicates whether a program HPO bound in a prior release of MANTIS runs when chained or externally done in this release without being rebound.

Default   Y

Options   Y   MANTIS always issues this fault when trying to run a program that was HPO bound in prior MANTIS releases.

N   MANTIS unbinds and executes the program when externally DOne or CHAINed to.

Considerations

♦ Programs bound in MANTIS 4.2 and 4.25 do not run in this release without being rebound. Attempting to run programs bound in a prior release causes an error message when FLTFOR=Y.

♦ The fault is always issued in programming mode and is indicated in the BND column of the directory facility. Refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001, for more information about the directory facility.

♦ You can use FLTBOR=N during conversion to production to run programs until you can rebind the programs. Use the HPO binding facility (see "MANTIS utilities" on page 131) to rebind all/selected HPO bound programs for the current MANTIS release.

♦ MANTIS unbinds the program before it is run when FLTBOR=N. Therefore, any bound entities must exist on the cluster.

GLBLMOD=

Description   Indicates the name of the global module to permit more than one MANTIS in a single CICS system or to avoid naming conflicts.

Default   CSOPGLBL

Format   1–8 alphanumeric characters

Considerations

♦ Indicates the name of the global module used to hold data for MANTIS.

♦ Must be available in a CICS library and defined in PPT (Program Processing Table).

♦ Not used for Batch MANTIS.

♦ Copy or rename the supplied CSOPGLBL to the name you set GLBLMOD= to.

INCLUDE=

Description   Specifies the interfaces you want to link with MANTIS.

Considerations

- ◆ This parameter optimizes performance for those interfaces, printer exit programs, and/or SQL support modules that you link with MANTIS. You can only link Assembler language interface programs to MANTIS because MANTIS is a command-level, Assembler language application. (Refer to the *CICS VS Application Programmer Guides and Reference Manuals* for more details.)

- ◆ You must also modify your linkdeck(s) for MANTIS to include these programs.

- ◆ Included interface programs are invoked by a BALR 14,15 rather than by an EXEC CICS LINK.

- ◆ The called Assembler routine may contain command-level calls to CICS. In this case, you must precede your Assembler interface program with the DFHEIENT macro and place the DFHEIRET macro at the end of the interface program.

> **NOTE**
>
> You must set your own handle conditions if you use CICS command level calls.

- ◆ The register conventions upon entry to your Assembler program are:

  - Register 1 contains the address of a parameter list (the parameter list includes the address of the current EIB block [4 bytes] and the address of the current common area [4 bytes]).

  - Register 13 contains the address of a save area (18 full words).

  - Register 14 contains the address of the return point (in MANTIS).

  - Register 15 contains the address of the entry point (interface routine).

♦ Because the assembler limits operand string lengths to 255, you can invoke C$OPCUST INCLUDE= multiple times, if needed.

For example:

```
C$OPCUST .... any parameters
C$OPCUST INCLUDE=xxxx1,xxxx2,xxxx3
C$OPCUST INCLUDE=xxxx4,xxxx5,xxxx6
```

♦ If an interface is linked to an RMODE 31 MANTIS, then XA=INTERFACES is also required.

♦ The index should have an entry for interfaces, pointing to INCLUDE= and XA=.

KILL=

Description	Indicates keyword for KILL function.
Default	KILL
Format	0–6 alphanumeric characters

Considerations

♦ If you specify nothing for this parameter (KILL=), you disable the ability to terminate programs in a loop or at a CONVERSE, WAIT, OBTAIN, or PROMPT.

♦ To disable the KILL function in a particular environment, make the keyword one that only you know.

LANG=

Description	Specifies the default 3-character System Language Code for Native Language Support (NLS).
Default	ENU
Options	ENU Mixed-case US English
	ENP Uppercase US English

Considerations   Can be overwritten on a user-level.

MANTPROG=

Restriction	Applies only to CICS.
Description	Mantis program name, as defined in the CICS RDO tables.
Default	MANTIS
Consideration	Used for M/TEXT. This option provides the same functionality as fix 981084 for MANTIS release 5401.

MASKCHR=

Description	Specifies the default mask character for screen design and the FORMAT function.
Default	X'7B' (a hash character - #)
Options	X'*xx*' (any valid hex character)
	C'*x*' (any valid text character)

Considerations

- ♦ The mask character in screen design and the FORMAT function designates where a character in a data field is positioned. Refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002, for information on the FORMAT statement.

- ♦ The hash character is not available on some international terminals, so you can change the mask character with this parameter.

- ♦ To change the mask character on screens created in release 4.2 and 4.25, you must first convert the screens to release 5.2 format.

- ♦ To use an ampersand (&) as the mask character, you must specify C'&&'. This is a special consideration of the Assembler language.

NUM2TXT=

Description   Specifies whether MANTIS will convert large packed numeric fields to a
TEXT format internally.

Default   Y

Options   Y   MANTIS will convert packed fields greater than 8 bytes in length and
Zoned fields greater than 16 bytes in length to an internal format of
TEXT.

N   MANTIS will not convert numeric fields.

Consideration Using packed fields greater than 8 bytes or zoned fields greater than 16
bytes without decimal points may lose precision when accessed by
MANTIS from an external VSAM file, a TOTAL view, an INTERFACE or
an RDM VIEW. MANTIS originally converted all numeric fields internally
to floating point format. When these fields were written back to the
external VSAM file, TOTAL file, INTERFACE, or RDM View, they were
again converted from floating point to packed or zoned format. It was
due to the conversion process and inherent to floating point format that
these fields would ultimately lose precision on large numeric fields.
Currently, and as the default, MANTIS will convert large packed or zoned
fields without decimals to a TEXT format internally which will ensure that
these fields will not lose precision.

Setting NUM2TXT="Y" applies to packed and zoned fields defined in
MANTIS external VSAM files, Interfaces, TOTAL views, and RDM views
only.

PCHNROL=

Description   Controls whether the Local Program Pool rolls to temporary storage for CICS pseudoconversational tasks.

Default   N

Options   Y   Rolls the Local Program Pool to temporary storage when a terminal I/O occurs in pseudoconversational mode.

N   Does not roll the Local Program Pool when a terminal I/O occurs in pseudoconversational mode. The Local Program Pool is rebuilt, as required, after your application rolls back in.

Considerations

♦   This parameter trades temporary storage I/O and memory for SETPRAY I/O.

♦   The optimal value for this variable is determined for each environment by trying both options and assessing what impact it has.

♦   The impact can differ for different environments, for example, test vs. production, or, a large Shared Pool vs. a small (or no) Shared Pool.

POSITIV=

Description   Changes the display values for CR and DR in edit masks.

Default   CR

Options   CR   Blanks display for a positive value and CR displays for a negative value.

DR   Blanks display for a negative value and DR displays for a positive value.

Consideration The CB, DB, + and - signs in edit masks are not affected by this parameter.

Examples

```
   Numeric        Mask         Default       POSITIV=DR
    Value         String       Result          Result

   -------       --------      -------       ----------
     +19         "### CB"       19 CR          19 CR
     -19         "### CB"       19 DB          19 DB
     +19         "### DB"       19             19
     -19         "### DB"       19 DB          19 DB
     +19         "### CR"       19 CR          19          <=== CR/DR
     -19         "### CR"       19 DR          19 CR       <=== mask
     +19         "### DR"       19             19 DR       <=== only
     -19         "### DR"       19 DR          19          <=== affected
     +19         "### +"        19 +           19 +
     -19         "### +"        19 -           19 -
     +19         "### -"        19             19
     -19         "### -"        19 -           19 -
```

PRTCOL=

Restriction   It applies only to SCS printer width on CICS.

Description   Sets the printer physical column width.

Default   132

Options   A number evaluating to 132–254

PRTDISC=

Description	Indicates whether a printer is disconnected from CICS after it completes MANTIS printing.
Default	Y
Options	Y Printer is disconnected from CICS after it completes MANTIS printing.
	N Printer is not disconnected from CICS after it completes MANTIS printing.

PRTFBOT=

Description	Controls the presence of absence of a "form feed" at the end (bottom) of an SNA type data stream (SCS Printer Class 1). The "form feed" character string consists of a Carriage Return, a Form Feed, and a Carriage Return. When specified, these control characters are inserted preceding the End Message control character.
Default	N
Options	N The form feed character string (CR, FF, CR) is not to be Inserted preceding the End Message control character.
	Y The form feed character string (CR, FF, CR) is to be inserted Preceding the End Message control character.
Consideration	This parameter should be coded "Y" if the user currently has Release 5400 fix 981338 installed.

PRTFTOP=

Description	Controls the presence or absence of a "form feed" at the top of an SNA type data stream (SCS Printer Class 1). The "form feed" character string consists of a Form Feed control character and a Carriage Return control character. When specified, these two control characters are inserted preceding the End Message control character.
Default	Y
Options	Y The form feed character string (FF, CR) is to be inserted at beginning of the printer data stream.
	N The form feed character string (FF, CR) is not to be inserted at the beginning of the printer data stream.

PRTRANS=

Description   Specifies the transaction ID (TRANSID) for a printer task.

Default   One of the following:

- ◆ The current TRANSID if known to be one for MANTIS.

- ◆ The current resume TRANSID if paired TRANSIDs are being used.

- ◆ The first resume TRANSID specified in the TRANSID parameter.

Considerations

- ◆ The value specified or implied for PRTRANS must be the value of a MANTIS TRANSID defined in a PCT entry in your CICS system.

- ◆ The value specified for PRTRANS= must be a valid CICS TRANSID or the START for the printer task fails.

- ◆ If you specify an invalid CICS TRANSID, it can result in IPD faults when attempting to print.

RECHECK=

Description   Specifies whether TOTAL views and bound RDM views should be checked for consistency on every execution of TOTAL and VIEW statements Y or once per TP monitor execution N.

Default   Y

Considerations

- ◆ This parameter applies only to High Performance Option (HPO) users. If you do not have HPO, code RECHECK=Y.

- ◆ You may want to specify Y in development environments where TOTAL and RDM (Relational Data Manager) views are changing concurrent with running programs.

RELEASE=

Description	Releases RDM logical views on CHAIN or RUN statement.
Default	Y
Options	Y Logical views are released on a CHAIN or RUN statement.
	N Logical views are released only by an explicit RELEASE statement or when you sign on as a new user or terminate MANTIS.
Consideration	Using this option can increase RDM storage requirements and/or reduce RDM overhead in a system.

> **NOTE**
>
> Discuss this option with your DBA before specifying N.

RESETOT=

Restriction	Applies to CICS and TOTAL/PDM only.
Description	Allows TOTAL/PDM database updates to be backed out with the TOTAL/PDM RESET request.
Default	N
Options	Y TOTAL/PDM database updates are backed out using the TOTAL/PDM RESET request.
	N TOTAL/PDM database updates are backed out using SYNCPOINT ROLLBACK.
Consideration	If VSAM file updates must be backed out, SYNCPOINT ROLLBACK will be issued for both options. This option provides the same functionality as fix 20000192 for MANTIS release 5401.

RETRY=

Restriction	Applies only to TOTAL/PDM.
Description	Provides number of HELD/SRTL retries (for TOTAL and PDM) you want MANTIS to perform before a HELD status is returned to the MANTIS program.
Default	20
Options	Values include any nonnegative integer.
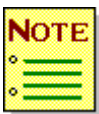
Discuss this option with your DBA before specifying N(o).

ROLLMEM=

Description	For CICS: indicates which type of CICS temporary storage is used for rolled out memory (pseudoconversational tasks).
Default	AUX
Options	MAIN Rollouts go to Main Temporary Storage.
	AUX Rollouts go to Auxiliary Temporary Storage.

Consideration for CICS

If ROLLMEM= is left blank, rollouts go to CICS Auxiliary Temporary Storage, if enabled in CICS.

SHRPMOD=

Restrictions

- ♦ It is used in a non-XA CICS environment only.

- ♦ You cannot specify CSOPSHAR for this parameter.

Description The name of the Shared Pool module used as a segment in the Shared Pool.

Default Null

Options Null   A CICS shared GETMAIN is used for Shared Pool Segments instead of loading a Shared Pool Module.

CSOPSHRP   The Cincom supplied Shared Pool Load Module.

xxxxxxxx   (any 1–8 character load module name except CSOPSHAR) A user-specified Shared Pool load module created by assembling the C$OPSHRP macro.

Considerations

- ♦ Must be available in CICS library.

- ♦ Must be defined as a program resource definition.

SOSI=

Description	Sets Shift Out/Shift In mixed character support.
Default	N
Options	Y The CSOPKANJ object module must be included in the MANTIS Load Module.
	N Mixed character variables are not supported.

SOSICD=

Description	Sets Shift Out/Shift In Type Code
Default	IBM
Options	IBM
	FACOM

Consideration Specifies hardware command string for shift out/shift in of EBCDIC mode. This value varies by manufacturer.
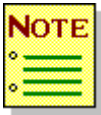
> **NOTE**
>
> If you need this parameter, contact your local Cincom representative for the applicable value or customization to your equipment.

SPSIZE=

Applies only to:

♦ ESA or XA environments where the Shared Pool is located above the 16 MB line.

♦ Non-ESA or non-XA environments where the Customization Macro parameter SHRPMOD= is set to null.

Description   Determines the size of each segment in the Shared Pool.

Default   64K

Format   Can be specified in bytes (*n*), kilobytes (*n*K), or megabytes (*n* MB).

Options   Any number of bytes up to 16 MB

Considerations

♦ Each segment contains one or more programs, DL/I call profiles, or nonshared statistics areas.

♦ A Shared Pool located below the 16 MB line consists of CSOPSHRP load modules, each of which can be defined up to 512K in size. To adjust the size of CSOPSHRP, specify the value in the member CSOPSHRP(C$OPSHRP SPSIZE=).

♦ If the size specified is not a multiple of 1K (1024), SPSIZE is automatically rounded to the next 1K increment.

♦ For non-HPO XA users, an SPSIZE of less than 64K is valid as long as SPSIZE is large enough for a statistics area or DL/I call profile storage. See STATCNT on page 301 for information about calculating the size for storing statistics.

SQLAUTO=

> **Restriction**   It only applies to CICS when the SQL database in use is DB2 or DB2 for VSE and VM (formerly SQL/DS).
>
> **Description**   Specifies whether a MANTIS SQL program automatically switches to dynamic execution mode if the program is prepared for static or extended dynamic execution and cannot run in these modes. For example, if the static mode SQL Support Load Module is unavailable or inconsistent with the MANTIS program.
>
> **Default**   N
>
> **Options**   Y   Specifies that MANTIS runs in dynamic mode if static or extended dynamic execution is impossible.
>
> N   Specifies that MANTIS faults with an error message if static or extended dynamic execution is impossible.

Considerations

> ♦ No notification is given when MANTIS switches to dynamic execution mode (SQLAUTO=Y). The program continues running, but in dynamic execution mode, which can impair performance. Use SQLAUTO=N when it is important to know that the program is not executing in static or extended dynamic mode (the static mode SQL Support Load Module or the extended dynamic access module is not being used).
>
> ♦ Setting SQLAUTO=Y may make debugging the incorrect preparation of a program for static or extended dynamic execution mode less obvious, because inconsistencies between the program and the SQL Support Load Module may not be found immediately.

SQLCONN=

Restriction   It only applies to CICS when the SQL database in use is SUPRA or DB2 for VSE and VM (formerly SQL/DS).

Description   Specifies whether MANTIS attempts to CONNECT to the SQL database when an SQL statement is executed and no prior SQL CONNECT statement was executed by the MANTIS program.

Default   Y

Options   Y   Attempts to CONNECT to the SQL database.

N   Does not attempt to CONNECT to the SQL database.

Considerations

♦ If SQLCONN=Y

1. If DB2 for VSE and VM is in use, also specify SQLUSER= and SQLPSWD=.

2. If SUPRA is in use, also specify SQLUSER=, SQLPSWD=, and SQLDBNM=. If these parameters are not provided, MANTIS will request that SUPRA use the XUSER file to complete the CONNECT.

♦ MANTIS does not attempt to CONNECT if the SQL statement being executed by the MANTIS program is CONNECT, WHENEVER, or COMMIT/ROLLBACK WORK RELEASE.

♦ MANTIS attempts to CONNECT only to SUPRA database session 1.

SQLDANM=

Description   Specifies the maximum number of internal SQLDAs that can be allocated for MANTIS internal use. SQLDAs allocated using the MANTIS SQLDA statement are not affected by this parameter.

Default   10

Considerations

♦   In MANTIS SQL Support, any SQL statements that contain host variables require an SQLDA to hold these variables. Many SQL statements do not use an SQLDA (SELECT ... INTO, FETCH INTO, etc.). When these statements are executed, MANTIS automatically allocates an SQLDA to transfer host variables between MANTIS and the SQL database. These SQLDAs are called internal SQLDAs. They are not the same as SQLDAs explicitly allocated by the program using as SQLDA=NEW statement. SQLDAs explicitly allocated by a MANTIS program are called external SQLDAs. There is no limit on the number of external SQLDAs a program can allocate. The SQLDANM= parameter does not apply to external SQLDAs. The SQLDANM= parameter specifies the maximum number of internal SQLDAs that MANTIS can allocate for each DOLEVEL of the MANTIS program.

♦   For DB2 and DB2 for VSE and VM (formerly SQL/DS), two internal SQLDAs are required for each SQL statement containing host variables (one for input host variables and one for output host variables). SUPRA requires only one SQLDA for each SQL statement.

♦   SQLDANM= specifies the maximum number of internal SQLDAs that MANTIS can allocate for each DOLEVEL of the program. When this limit is reached, MANTIS reuses the least used internal SQLDA, and continues reusing internal SQLDAs as long as needed. This reuse implies that an internal SQLDA that is already allocated may be reallocated because it was reused by another SQL statement.

♦ SQLDANM can be used as a tuning parameter to improve performance.

- If short response time is needed, SQLDANM= can be set higher than the maximum number of SQL statements allocated in any MANTIS program. This causes SQLDAs to be allocated once and never reallocated. However, this greatly increases the amount of dynamic storage used by MANTIS SQL support.
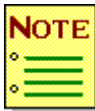
> **NOTE**
>
> If MANTIS is executing in 31-Bit Addressing mode, all dynamic storage for MANTIS SQL support is acquired from above the 16 MB line.

- If dynamic storage is in short supply, set SQLDANM= low so only a small amount of dynamic storage is used. However, this increases the CPU time used by MANTIS SQL support because internal SQLDAs may require reallocation. If SQLDANM= is set to the minimum value (2), the dynamic storage used by MANTIS SQL support is minimized, but the internal SQLDAs are reused by every SQL statement that needs them.

♦ You must specify a minimum value of 2.

SQLDARO=

Description   Specifies whether internal SQLDAs should be rolled out during a terminal I/O when running in CICS pseudoconversational mode. See the explanation for the Customization Macro parameter SQLDANM= on page 292 for a description of internal SQLDAs.

Default   Y

Options   Y   Rolls out internal SQLDAs. This setting can have performance considerations if the number of internal SQLDAs that are rolled is large. This trades temporary storage I/O for memory. The optimal value for this variable is determined for each environment by trying both options and assessing what impact it has. This can differ for different environments.

N   Deallocates all internal SQLDAs whenever MANTIS context is rolled out. If MANTIS is executing under control of CICS in pseudoconversational mode, these SQLDAs are deallocated at each terminal I/O. They are reallocated as needed after MANTIS was rolled in.

Consideration SQLDARO does not apply to SQLDAs allocated by the MANTIS SQLDA statement. These SQLDAs are always rolled out.

SQLDBNM=

Restriction	It applies to CICS, only if the SQL database in use is SUPRA.
Description	Specifies the database name used if MANTIS attempts a default connection to a SUPRA SQL database.
Format	1–64 character database name.
Consideration	If the database in use is SUPRA and SQLCONN=Y, you must also specify SQLUSER= and SQLPSWD=.

SQLINCR=

Description	Specifies the increment by which dynamic storage used by MANTIS SQL support is increased, if needed.
Default	1K
Options	1–32K
Format	*n* (bytes) or *n*K (kilobytes)

Considerations

- ♦ You can specify the value in either number of bytes or kilobytes; that is, 1024 or 1K.

- ♦ Dynamic storage areas used by MANTIS SQL support are primarily used to hold internal and external SQLDAs (see SQLDANM= parameter on page 292 for more information on internal and external SQLDAs). When these areas must expand, they are expanded to the lowest multiple of SQLINCR= that can contain them.

- ♦ SQLINCR= can be used as a tuning parameter. If SQLINCR= is set low, a minimum of dynamic storage is used, but these areas may require expansion more frequently. If SQLINCR= is set high, dynamic storage areas expand less frequently (or not at all), but not all dynamic storage may be used.

SQLINIT=

Description	Specifies the initial size used for dynamic storage by MANTIS SQL support. The size required depends on the number of dynamically prepared SQL statements and their size.

Default   2K

Options   1–32 K

Format   *n* (bytes) or *n*K (kilobytes)

Considerations

- ◆ You can specify the value in either number of bytes or kilobytes; that is, 2048 or 2K.

- ◆ The SQLINIT= parameter is primarily used when allocating internal and external SQLDAs (see SQLDANM= parameter on page 292 for a description of internal and external SQLDAs). In MANTIS SQL support, an internal or external SQLDA contains both the SQL SQLDA structure and the data areas specified by all the SQLVARs within it. The ideal value of SQLINIT= is the average SQLDA size (both SQLDA and data allocated by it) at your installation. An approximation of this figure is the average number of host variables used in each SQL statement multiplied by the average host variable data length, plus the length of the SQL SQLDA (taken from your SQL database manual). If SQLINIT= is higher than this size, dynamic storage may be allocated but not used. If SQLINIT= is lower than this size, SQLDAs may be forced to expand during execution.

- ◆ If any area requires expansion during execution, MANTIS automatically expands it by the value specified in SQLINCR=.

SQLNDTA=

Description Specifies whether MANTIS data areas should be cleared if a NULL value is returned by the SQL database.

Default N

Options Y Clears MANTIS data areas if the data returned by the SQL database for the MANTIS variable is NULL. MANTIS BIG and SMALL variables are set to numeric zero. TEXT and DBCS variables are set to zero current length.

N MANTIS data areas remain unchanged if the data returned by the SQL database for them is NULL.

Considerations

♦ If DB2 or DB2 for VSE and VM (formerly SQL/DS) is in use, specify an indicator variable with each host variable in the SQL statement for SQLNDTA= to be effective.

♦ If no indicator variable is present, the MANTIS data area is left unchanged regardless of the setting of SQLNDTA=.

♦ If SUPRA is in use, the indicator variable is not required.

SQLPSWD=

Restriction It only applies to CICS if the SQL database in use is SUPRA or DB2 for VSE and VM (formerly SQL/DS).

Description Specifies the password used if MANTIS attempts a default connection to the SQL database.

Considerations

♦ If SQLCONN=Y and DB2 for VSE and VM is in use, you must also specify SQLUSER=.

♦ If SQLCONN=Y and SUPRA is in use, you must also specify SQLUSER= and SQLPSWD=.

SQLRLSE=

Restriction   It only applies if the SQL database in use is SUPRA or DB2 for VSE and VM (formerly SQL/DS).

Description   Specifies when MANTIS releases the connection to the SQL database.

Default   (CHAIN,CONNECT,FAULT)

Options   CHAIN, CONNECT, and/or FAULT can be specified in any combination.

Considerations

   ♦   If this parameter is specified, MANTIS terminates the connection to the SQL database when the specified condition occurs. Specifying SQLRLSE=, eliminates all MANTIS automatic termination of connections to the database.

   ♦   When CHAIN or CONNECT is specified, a COMMIT WORK RELEASE is executed before the CHAIN or CONNECT statement is executed. Otherwise, no COMMIT WORK RELEASE is issued at these points. MANTIS remains connected to the SQL database. A COMMIT WORK RELEASE must be coded in your MANTIS program to terminate the connection to the SQL database.

   ♦   When FAULT is specified, a ROLLBACK WORK RELEASE is executed before the FAULT error message displays. This ROLLBACK applies only to the SQL database connection. If FAULT is not specified in SQLRLSE, a ROLLBACK WORK is still performed as part of MANTIS FAULT processing, but MANTIS remains connected to the SQL database.

   ♦   SQLRLSE=FAULT is executed whenever a MANTIS FAULT occurs. This includes MANTIS FAULTs generated by the SQL WHENEVER statement. If any WHENEVER statement specifies FAULT as the action to be taken and SQLRLSE=FAULT, a ROLLBACK WORK RELEASE is executed.

SQLUPAD=

Restrictions

♦ Does not apply to SQL datatypes defined as MANTIS DBCS compatible (GRAPHIC, VARGRAPHIC, DBYTE).

♦ Does not apply to SUPRA SQL table columns that are defined as BYTE or STRING.

Description Specifies whether trailing blank characters should be removed from character data returned by the SQL database to MANTIS.

Default N

Options Y Removes all trailing blank characters from character data returned by the SQL database before being stored in MANTIS variables.

N Returns all character data returned by the SQL database as is into MANTIS variables. Any trailing blanks must be removed by the MANTIS program, if desired.

SQLUSER=

Restriction	It only applies if the SQL database in use is SUPRA or DB2 for VSE and VM (formerly SQL/DS).
Description	Specifies the SQL user name used if MANTIS attempts a default connection to the SQL database.
Default	(Blanks)

Considerations

♦ If SQLCONN=Y and DB2 for VSE and VM is in use, you must also specify SQLPSWD=.

♦ If SQLCONN=Y and SUPRA is in use, you must also specify SQLPSWD= and SQLDBNM=.

♦ If the SQL database is DB2 for VSE and VM, SQLCONN=Y, and SQLUSER= is not specified, MANTIS does not attempt a default CONNECT.

♦ If the SQL database is SUPRA, SQLCONN=Y, and SQLUSER= is not specified, MANTIS attempts to CONNECT to SUPRA using the XUSER file.

SQLVAR=

Description	Specifies the default number of repeating elements in the physical SQLDA structure. A repeating element is required for each column value being selected from the database or each host variable being inserted into the database with a single SQL statement.
Default	10

Considerations

♦ Must be one or more.

♦ If your SQL statements typically have more than 10 host variables or column values, you may want to increase this value so that the initial SQLDA value is large enough to handle the requests without modification.

STATCNT=

Description   Indicates the number of nonshared programs and nonshared DL/I call profiles (not stored in the Shared Pool) that are monitored and reported.

Default   (500,500)

Considerations

♦   The first number specifies the nonshared programs to keep statistics on; the second number specifies nonshared DL/I call profiles for statistics.

♦   The size of the statistics area for programs and DL/I call profiles not residing in the Shared Pool can be calculated as approximately:

```
(48 * number of entries) + 28.
```

♦   Statistics for 500 nonshared programs uses approximately 24K. (48 * 500) + 28 = 24028. Statistics for 500 call profiles use the same amount.

♦   All programs and DL/I call profiles stored in the Shared Pool have statistics accumulated automatically. No additional space need be specifically allocated. See "Shared Pool Entity Statistics Facility" on page 177 for more information about gathering and reporting statistics.

♦   Storage for nonshared statistics is allocated in the Shared Pool only when statistics is started. See "Shared Pool Entity Statistics Facility" on page 177 for information on starting statistics.

STORHLD=

Description   Storage retain option. Controls whether MANTIS releases storage areas when not needed or retains them for use later.

Default   N

Options   Y   MANTIS holds storage areas (within a transaction) no longer needed for possible reuse to reduce the number of GETMAIN/FREEMAIN that MANTIS issues.

N   MANTIS FREEMAINs storage areas that are no longer needed. These areas were acquired by a GETMAIN.

STRLENC=

Description   Sets the default system string comparison.

Default   Y

Options   Y   Perform string comparison by comparing the length of the strings first (as in MANTIS prior to this release).

N   Perform string comparison by padding the strings with binary zeroes to equal length and then comparing the strings character-by-character.

Considerations

♦   If the String Comparison User Exit exists, the exit is used instead of the STRLENC= parameter. See "User exits and utility programs" on page 631 for information about user exits.

♦   CONTROL users do not use the String Comparison User Exit or this parameter. String comparison in the CONTROL user is always performed by comparing length first.

TDSCOMP=

Description   Specifies terminal datastream compression.

Default   Y

Options   Y   MANTIS substitutes repeat-until-address 3270 commands for repeating character strings being sent to the terminal. This reduces the transmission size of terminal write requests.

N   MANTIS does not substitute repeat-until-address 3270 commands for repeating character strings being sent to the terminal.

Considerations

♦   Setting TDSCOMP=Y can be important for heavily used transmission lines or slow response time.

♦   Specify TDSCOMP=N if:

- You already have software that is doing this for MANTIS datastreams.

- Your terminals cannot handle the repeat-until-address command.

- Your terminal write exit (CSOXTERM) cannot handle the repeat-until-address command.

- You experience excessive CPU times with this option set to Y.

TEQUERY=

Description   Specifies whether MANTIS Logical Terminal Interface handles the terminal query in the CICS environment.

Default   N

Options   Y   Issue the terminal query.

N   Do not issue the terminal query.

Considerations

♦ In a CICS environment, the following table indicates how TEQUERY= affects where the ATTRIBUTE(TERMINAL) function gets the terminal attributes:

ATTRIBUTE (TERMINAL)	TEQUERY Y	TEQUERY N
color	From the COLOR operand by EXEC CICS ASSIGN operation.	From the COLOR operand by EXEC CICS ASSIGN operation.
blinking	From the responded datastream by terminal query. LTI issues the terminal query when a TCTTE has the PS (program symbol) or the HIGHLIGHT feature.	From the HILIGHT operand by EXEC CICS ASSIGN operation.
underline	From the responded datastream by terminal query. LTI issues the terminal query when a TCTTE has the PS (program symbol) or the HIGHLIGHT feature.	From the HILIGHT operand by EXEC CICS ASSIGN operation.
reverse-video	From the responded datastream by terminal query. LTI issues the terminal query when a TCTTE has the PS (program symbol) or the HIGHLIGHT feature.	From the HILIGHT operand by EXEC CICS ASSIGN operation.
box (outline)	From the responded datastream by terminal query. LTI issues the terminal query when a TCTTE has the PS (program symbol) or the HIGHLIGHT feature.	From the OUTLINE operand by EXEC CICS ASSIGN operation.
DBCS	From the responded datastream by terminal query. LTI issues the terminal query when a TCTTE has the PS (program symbol) or the HIGHLIGHT feature.	From the SOSI operand by EXEC CICS ASSIGN operation A terminal that has the SO/SI (Shift Out/Shift In) feature has the DBCS (e.g., DBCS) feature too.
pen-detectable	Pen-selectable is always supported.	Pen-selectable is always supported.

♦ Although necessary in earlier releases of CICS, it is more efficient to use the information obtained from the EXEC CICS ASSIGN. Not all terminal emulators recognize the terminal Query.

♦ This parameter affects performance. For remote terminals, the query can take a lot of transmission time to query the device.

TERMFUNC=

Description   Specifies whether the TERMINAL keyword returns the CICS terminal ID or the VTAM netname.

Default   TERMID

Options   TERMID   The TERMINAL keyword returns the 1-8 character CICS Terminal id.

VTAMID   The TERMINAL keyword returns the 8 character VTAM Netname.

Considerations

When VTAMID is specified the value returned is:

♦   For a physical terminal, the name by which this terminal is known to VTAM.

♦   For ISC sessions, the name by which the session (or session group, if there are parallel sessions) is known to VTAM.

♦   For MRO sessions, the name used by the connected region to log on to the interregion communication program. For a remote terminal, it is the name by which the terminal is known to the VTAM in the remote region. (For a remote terminal routed from a pre-CICS Transaction Server for OS/390 region, NETNAME is blank.)

♦   Setting TERMFUNC=VTAMID provides the same functionality as fix 980067 for release 5401 of MANTIS.

TERMRTN=

Restriction	Does not apply to batch environments.
Description	Indicates a non-MANTIS termination routine for online environments.
Format	1–8 character program ID.

Considerations

♦ MANTIS transfers control to this routine following termination.

♦ Use this routine to perform security programs or non-MANTIS menu programs.

♦ The routine must be named in the PPT.

TIMEFMT=

Description	Sets the systemwide default for how time is presented when the TIME function is used.
Default	"*HH:MM:SS*"
Format	1–12 characters (uppercase or lowercase) enclosed in single quotes.
Options	*HH* or *hh* 2-character hour—01–24 (1–12 if AM specified)
	MM or *mm* 2-character minute—00–59
	SS or *ss* 2-character second—00–59
	AM or *am* Displays AM/am or PM/pm as appropriate
	xxx Other characters, spaces and delimiters (such as - or :) TIMEFMT

Considerations

♦ Setting this parameter does not affect CONTROL user programs, which always use "*HH*:*MM*:*SS*".

♦ You can change the format in your program with the function TIME=format-mask. Refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002, for more information on the TIME function.

♦ If the mask is longer than 12 characters, only the first 12 characters are used for the mask.

♦ If you do not enclose the format mask in quotes, any characters past the first space found in the format mask are ignored, giving you an error or unpredictable results.

♦ *HH* displays 12 hour/zero suppressed when AM (or am) is in the mask. Without AM (or am) in the mask, *HH* displays in 24 hour format.

♦ The TIME format is maintained down DO/CHAIN levels. When CHAIN (without LEVEL) is encountered, the format is reset to the TIMEFMT format defined in CSOPCUST.

Examples

```
TIMEFMT="HH:MM AM"          TIMEFMT="HH-MM-SS"
SHOW TIME                   SHOW TIME
1:17 PM                     13-17-01
12:34 AM                    00-34-01
```

TISLVL=

Restriction   It is required in CICS only for users of TIS DBMS or SUPRA 1.*x*.

Description   Indicates your current TIS or SUPRA release level.

Default   2.x

Considerations

- ◆ Check with your DBA before modifying this value.

- ◆ For TIS, enter your release level.

- ◆ For SUPRA version 1 and above, the default of 2.x is sufficient. A value can be specified for x, but is not necessary.

- ◆ The effects of the TISLVL= and TOTINT= combination settings under CICS are in the table following the TOTINT= parameter.

- ◆ Do not specify a value if SERIES-80 TOTAL is being used.

TOTINT=

Description	Specifies whether Series-80 TOTAL and TIS 2.*x*/3.*x* RDM are running simultaneously in MANTIS.
Default	N
Options	Y Series-80 TOTAL and TIS RDM 2.*x*/3.*x* are running simultaneously.
	N Series-80 TOTAL and TIS RDM 2.*x*/3.*x* are not running simultaneously.

Considerations

♦ This parameter eliminates the unnecessary loading of TOTINIT for non-TOTAL and non-TIS users.

♦ The effects of the TISLVL= and TOTINT= combination settings under CICS are in the following table:

Description	Settings						
TOTINT=	Y	Y	N	N	N	N	N
TISLVL=	-	n	-	-	n	1	2+
DATBASC linked in	N	N	N	Y	N	Y	Y
Available:							
Series 80 TOTAL	Y*	Y*	N	Y*	N	Y	Y*
TIS 1.X PDM	Y	Y*	N	Y*	N	Y *	N
TIS 2.X PDM	N	N	N	Y*	N	N	N
TIS X.X RDM	N	Y	N	N	Y	Y	Y

* Only one available, depending upon release of DATBASC/TOTINT.

The combinations are as follows, depending on what products the MANTIS programs are accessing:

♦ SUPRA PDM and RDM

   - TISLVL=2.x

   - TOTINT=Y

   - SUPRA DATBASC should be linked with MANTIS

♦ SUPRA RDM only

   - TISLVL=

   - TOTINT=

   - DATBASC should NOT be linked with MANTIS

♦ SUPRA PDM only

   - TISLVL=2.x

   - SUPRA's DATBASC should be linked with MANTIS

♦ Series-80 TOTAL only

   - TISLVL=

   - TOTAL's DATBASC should be linked with MANTIS

For TIS, the above is the same as for PDM except for the version which will be TISLVL=1.3 or 2.3 depending on the TIS version.

Notes

♦ Because only one address is kept internally for PDM access, if DATBASC is linked in, TOTINT= is disregarded. TISLVL= is also disregarded when DATBASC is linked (with respect to loading TOTINT).

♦ Whenever the first digit of TISLVL= 1, 2, or 3, MANTIS tries to load the RDM interface.

♦ The previous table refers to CICS only. In Batch only DATBAS is used.

TRANSID= (ini1,res1,ini2,res2,...)

Description Defines the transaction code(s) (transids) for MANTIS. Required when MANTIS is called via CICS LINK or XCTL from a non-MANTIS program. Setting up transids in pairs is strongly recommended. Paired transids ensure accurate reinitialization in the case of an ABEND or LOSTTERM. See "Paired TRANSIDs" on page 39 for detailed information on how paired transids function.

Default " "

Considerations

♦ Paired Transids. A transid pair identifies a MANTIS task. A pair consists of an initial *transid* (iniX) and a resume *transid* (resX). Terminal operators signing on enter an initial *transid*.

A non-MANTIS *transid* can be used in a pair. For example, assume a COBOL transaction (transid MENU) LINKs or XCTLs to a MANTIS program, which uses transid MANR. Specify:

```
C$OPCUST TRANSID = (MENU,MANR)
```

Multiple transid pairs can be established to identify different tasks. Multiple pairs can be specified in two ways:

```
C$OPCUST TRANSID = (ini1,res1)
C$OPCUST TRANSID = (ini2,res2)
```

Or:

```
C$OPCUST TRANSID = (ini1,res1,ini2,res2,...)
```

With up to 25 pairs per invocation of the C$OPCUST macro. Only TRANSID, INCLUDE, and EXCLUDE can be specified on other than the first occurrence of C$OPCUST.

♦ The C$OPCUST parameter PRTRANS is used to specify the *transid* for the printer. See the discussion of PRTRANS on page 284.

♦ When your user is running as pseudoconversational, MANTIS executes a CICS return with TRANSID so that subsequent terminal input returns to MANTIS and not to the transaction that originally called MANTIS.

♦ When a non-MANTIS program tries to START MANTIS, it should use an initial *transid* when a sign-on is desired, or a resume *transid* if restarting after a PERFORM or PERFORM "program/EXEC".

♦ You can specify zero, one, or an even number of transids. When only one is specified, it is the *transid* for MANTIS.

TRCODE=

Description	Specifies translating code option (uppercase/lowercase).
Default	Y

Options   Y Uppercase translation by MANTIS takes place depending on other statements and functions used in MANTIS.

               N Uppercase translation by MANTIS never takes place under any circumstances (that is, MANTIS presents text as entered by the user).

Consideration The 'N' specification was designed to accommodate Asian terminals. Setting this option to 'N' will cause the screen field attribute for uppercase to default to 'N', which may not be desirable.

The following table shows what translation takes place when TRCODE=Y:

Parameter settings			
C$OPCUST TRCODE=	**ATTRIBUTE (TERMINAL)=**	**Field UPPERCASE***	**Translation to uppercase in MANTIS?**
Y	LOW	N	No
Y	LOW	Y	Yes
Y	UPP	Any	Yes
N	Any	Any	No

*   ATTRIBUTE(map,field)="UPP" is equivalent to Screen Design UPPERCASE Yes.
    ATTRIBUTE(map,field)="LOW" is equivalent to Screen Design UPPERCASE No.

TSSYSID=

Description	Specifies the name of the CICS system where MANTIS temporary storage requests will be routed.
Format	Any valid system name as defined by CICS.
Consideration	If this parameter is not coded or no value is specified, MANTIS temporary storage requests are sent to the CICS system where MANTIS is executing (the local CICS system).

WAINCR=

Description	Specifies the increment by which the Program Work Area (PWA) and Data Work Area (DWA) of a MANTIS program is increased, when necessary.
Default	4K
Format	Number of bytes or kilobytes; for example: 4096 or 4K.
Options	1K to 64K

Considerations

- ♦ The WAINCR= parameter specifies the increment or multiple by which the Program Work Area (PWA) and Data Work Area (DWA) increases when expansion is required.

- ♦ WAINCR= is a tuning parameter. If WAINCR= is set low, MANTIS issues more GETMAINs to satisfy MANTIS program storage requirements. If WAINCR= is set high, MANTIS issues fewer GETMAINs, but not all storage may be used.

WAINIT=

Description   Specifies the initial size for the Program Work Area (PWA) and Data Work Area (DWA) of a MANTIS program. The size specified here depends on the typical size of a MANTIS program or the typical size of all the MANTIS program variables.

Default   4K

Format   Specify the value in either number of bytes or kilobytes; for example: 4096 or 4K.

Options   1K to 64K

Considerations

♦ The WAINIT= value is used in programming mode when a new program is developed. It is also used for the initial allocation of the area for MANTIS program variables (DWA). The ideal value of WAINIT= is the size of the Data Work Area of your MANTIS programs.

♦ The WAINCR= parameter specifies only the initial size allocated for the PWA and DWA. If more space is required during execution, MANTIS automatically expands the work area by the value in WAINCR= or a multiple of WAINCR=.

♦ WAINIT= is a tuning parameter. If WAINIT= is set low, MANTIS issues more GETMAINs to satisfy MANTIS program storage requirements. If WAINIT= is set high, MANTIS issues fewer GETMAINs, but not all storage may be used.

XA=

    Restriction   It applies only to CICS.

    Description   Indicates which external programs are capable of running in AMODE 31 (31-bit addressing—accessing memory above the 16 MB line).

    Default   All external programs run in AMODE 24.

    Options   INTERFACES,PDM,RDM,DLI

    Considerations

- ♦ If the name is omitted from the list and MANTIS is AMODE 31, or no list is specified, addressing mode is switched to 24-bit and areas below the 16 MB line are allocated for interfacing with MANTIS.

- ♦ Upon return to MANTIS, MANTIS switches back to 31-bit addressing mode.

XPRTIOA=

    Description   Allows a data stream of more than 1920 bytes to be passed to CSOXPRNT, if this printer write exit is linked with MANTIS.

    Default   1920

C$OPFILE Macro

The C$OPFILE Macro permits a list of files (external VSAM files, the MANTIS directory (SETPRAY), and the TRANSFER file) to be opened read-only (any others are opened read-write) or a list of files to be opened read-write (any others are opened in read-only). This enables easy use of a SETPRAY exit for sharing split files across multiple systems, and for handling shared external VSAM files with batch MANTIS.

This macro also allows you to specify VSAM Local Shared Resources (LSR) for a list of files (external VSAM files, the MANTIS directory SETPRAY, and the TRANSFER file) or a list of files that do not use VSAM LSR. This enables more effective use of VSAM and should reduce I/O to any file listed for LSR use. If LSR is not to be used at all and no data sets are to be coded as read-only, remove the INCLUDE statement for C$OPFILE from your linkdeck. If LSR or NSR is coded, LSR is used.

LSR=

Description   Indicates which external VSAM files, MANTIS SETPRAY, and TRANSFER clusters are opened using MANTIS defined VSAM Local Shared Resources (LSR).

Considerations

♦   Entering the DDNAMES for files in this parameter opens those files using a MANTIS defined LSR pool.

♦   Files not specified in this parameter do not use LSR.

NBUF=

Description	Indicates the number of buffers that MANTIS allocates to a VSAM LSR pool. The LSR Pool is composed of a 32K buffer, a 16K buffer, an 8K buffer, and a 4K buffer, for a total of 60K space per buffer. You control the number of each sized buffer allocated by specifying a value for each respectively.
Default	(3,3,3,128)
Format	One number greater than 2, or four numbers that are each greater than 2 and are separated by commas and enclosed in parentheses.

Considerations

♦ You can specify either one number or four numbers; you cannot specify two or three numbers. If you specify only one value for this parameter, that number of buffers will be allocated for each of the 32K, 16K, 8K, and 4K sized buffers.

♦ If LSR= or NSR= is not specified in C$OPFILE, this parameter is ignored.

♦ Total buffer space allocated must be less than 16 MB.

♦ The value you specify is not validated by MANTIS and must be correct for the BUFFERS= parameter in the IBM BLDVRP macro or an assembly error results.

NSR=

Description	Indicates which external VSAM files, MANTIS SETPRAY, and TRANSFER clusters are opened with VSAM Nonshared Resources (NSR).
Default	None

Considerations

♦ Entering the DDNAMES for files in this parameter opens those files for VSAM NSR.

♦ Files not specified in this parameter use a MANTIS defined LSR pool.

NSTRG=

Description   Indicates the number of strings to allocate for use by VSAM LSR.

Default   32

Considerations

- ♦ This numeric value should be set to the maximum number of VSAM files that will be processed concurrently during any batch MANTIS execution.

- ♦ This value is passed to the IBM BLDVRP macro where it is used for the STRNO= parameter.

RO=

Description   Indicates which external VSAM files, MANTIS SETPRAY, and TRANSFER clusters are opened in read-only mode.

Considerations

- ♦ Entering the DDnames for files in this parameter opens those files as read-only.

- ♦ All other files not specified in this parameter are opened read-write.

RW=

Description   Indicates which external VSAM files, MANTIS SETPRAY, and TRANSFER clusters are opened in read-write mode.

Default   None

Considerations

- ♦ Entering the DDnames for files in this parameter opens those files in read-write mode.

- ♦ All other files not specified in this parameter are opened read-only.

SHRPOOL=

Description   Specifies the identification number of the LSR Pool that batch MANTIS will create. The identification number must be a value from 0–15.

Default   0

Considerations

♦ This parameter is not valid for DOS or VSE users.

♦ This parameter allows batch MANTIS to use an LSR Pool identification number that will not conflict with other software products. The typical use is for IMS where IMS is already using various LSR Pool identification numbers.

♦ This value is passed to the IBM BLDVRP macro where it is used for the SHRPOOL= parameter.

General considerations
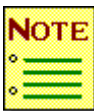
> **NOTE**
>
> You can only code an RO= or an RW= in the C$OPFILE macro. This means that you can code all the files needed to be opened in read-only, or all the files needed to be opened in read-write, but not both.

- ♦ This parameter applies only to Batch MANTIS and the MANTIS File Batch Interface (CSOPBINT).

- ♦ You can specify either CSOT or TRANSFER, CSOP or SETPRAY, and/or VSAM.

- ♦ VSAM indicates that all external VSAM files are opened read-only/read-write.

- ♦ Because the assembler limits operand string lengths to 255, you can specify as many C$OPFILE occurrences as you need, but the operand to the RO= or RW= parameter must be less than 256 characters.

- ♦ If LSR= and NSR= are not specified in C$OPFILE, then no VSAM Local Shared Resources are used. If you do not want LSR support, do not include LSR= or NSR= in C$OPFILE (see the following example).
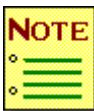
> **NOTE**
>
> You can code LSR= or NSR= in C$OPFILE, but not both. This means that you can code all the files needed to use LSR, or all the files needed to use NSR.

Examples

```
C$OPFILE RW=(SETPRAY,TRANSFER)
END
C$OPFILE RW=(SETPRAY,TRANSFER),LSR=(SETPRAY,TRANSFER,VSAM)
END
```

Creating the Shared Pool module for CICS

For non-XA environments, the Shared Pool is in CSOPSHRP modules when below the 16 MB line. If your system is running in an XA environment, the following section does not apply because the Shared Pool runs above the 16 MB line in your environment.

You can change the default Shared Pool module name, CSOPSHRP, to any 8-character load module name (except CSOPSHAR). A Customization Macro parameter, SHRPMOD=, is available to rename the Shared Pool modules. Refer to the Customization Macro discussed earlier in this chapter.

The installed source and JCL libraries contain samples of the input and assembly jobs to modify this module.

Modify linkdecks

Multiple linkdecks are supplied in the macro library in MANTIS on the installation tape, or as part of the installation process. These linkdecks, MELMANT/ MDLMANT (CICS processing) and MELMANTB/MDLMANTB (batch processing), include all MANTIS options. Additional linkdecks are required for batch access to MANTIS internal files (MELBINT/MDLBINT).

Several optional modules can be included with MANTIS. You can remove optional modules not needed from the linkdeck to customize MANTIS.
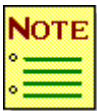
> **NOTE**
>
> The explanations of linkdecks in this section are environment specific. Linkdecks for OS/390 begin with ME, such as MELBINT. Linkdecks for VSE/ESA begin with MD, such as MDLBINT.

User exits provided on the install tapes are samples only, and should be removed from the linkdeck until they are reviewed or changed for your needs. For more information, see "User exits and utility programs" on page 631.

As a precaution, make a copy of the Cincom-distributed linkdeck and modify the copy. In this way, if a required module was inadvertently deleted, simply make another copy of the linkdeck, modify it and relink MANTIS again.
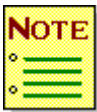
> **NOTE**
>
> **Warning:** Do not change the order of the modules in the linkdecks provided with MANTIS on the installation tape, or as part of the installation process.

CICS access to DL/I and DB2. For CICS customers requiring access to both DL/I and DB2 in batch, one Batch MANTIS module needs to be linked for each different environment from which DB2 is to be accessed. Access DB2 from the TSO command processor (IKJEFT01) or from the IMS region controller (DFSRRC00), where you can also access DL/I. For DB2 access, CSOPSQL2 should first be linked (as part of the MVJ2PAL sample job) and include the TSO attachment module for DB2 (DSNELI). Ensure that the INCL2 parameter in the MVJ2PAL PROC refers to MVLIELI.

DB2 access from TSO command processor. If DB2 access is required from the TSO command processor only, modify the linkdeck for Batch MANTIS to contain linkage editor REPLACE control statements for entry points DSNHLI and DSNWLI immediately before the INCLUDE statement for ASMTDLI. This will disable the IMS attachment entry points for DB2, while allowing the TSO attachment entry points for DB2 to be resolved with the INCLUDE statement for CSOPSQL earlier in the linkdeck. This will also prevent IEW0241 messages from being issued for the DSNHLI and DSNWLI entry points.

The following table lists the optional modules and linkage editor parameters grouped by what they support:

Modules	Required for
MODE AMODE(31),RMODE(ANY)	XA support (puts MANTIS and all acquired storage areas above the 16 MB line). Batch MANTIS will not work linked as RMODE(ANY). You need to link as one of the RMODE(24) choices.
MODE AMODE(31),RMODE(24)	XA support (puts MANTIS below the 16 MB line and all acquired storage areas are above the 16 MB line).
MODE AMODE(24),RMODE(24)	Non-XA support (puts MANTIS and all acquired storage areas below the 16 MB line). There is no need to specify this in the linkdeck because it is the default.
TOTLIB(DATBASC)	PDM support (CICS)
TOTLIB(DATBAS)	PDM support (batch)
CSOPIFPD	PDM support
CSOPIFRD	RDM support
CSOXSETP	SETPRAY user exit
CSOXSTRC	String compare user exit
CSOXEXTF	External file user exit
CSOXTERM	Terminal output user exit
CSOXPRNT	Printer user exit
CSOXPROG	Program load user exit
CSOPIFSC	Program and/or screen design
CSOPIF40	Program design
CSOPKANJ	DBCS support
CSOPLASR	DBCS support (Batch MANTIS only)
CSOPLATB	DBCS support (Batch MANTIS only)

Modules	Required for
CSOPSTAT	Shared pool statistics
CSOPPARS	SQL (SUPRA, DB2, DB2 for VSE and VM) support
CSOPSQLA	SQL (SUPRA, DB2, DB2 for VSE and VM) support
CSOPSQLF	SQL (SUPRA, DB2, DB2 for VSE and VM) support
CSOPSQLM	SQL (SUPRA, DB2, DB2 for VSE and VM) support
CSOPSQLT	SQL (SUPRA, DB2, DB2 for VSE and VM) support
CSOPSQL3	SQL (SUPRA) support
ICICSQBL	SQL (SUPRA) support (CICS)
CSOPSQL1	SQL (DB2 for VSE and VM—on site assemble) support
CSOPSQLC	SQL (DB2, DB2 for VSE and VM) support
CSOPSQLP	SQL (DB2) support
CSOPSQL2	SQL (DB2—on site assemble) support
DSNTIAR	SQL (DB2—error text) support
CSOPFILE	LSR/Read only file specification (Batch MANTIS)
ISURPCLZ	SQL (SUPRA) support (batch)
CSOPSQL1	DB2 for VSE and VM
ARIRRTED	DB2 for VSE and VM (CICS)
ARIPRDID	DB2 for VSE and VM (batch)
CINMANTD	MANTDLI (DL/I) support
CINMRTNE	MANTDLI (DL/I) support
CINMRTN2	MANTDLI (DL/I) support
CINMRTN3	MANTDLI (DL/I) support
CINMPERM	MANTDLI (DL/I) support
ASMTDLI	MANTDLI (DL/I) support (CICS)*
ASMTDLI	MANTDLI (DL/I) support (batch)
CSOPPCCI	PC CONTACT support
CSOPFILE	LSR Usage (batch)

* Required for IMS environments.

MANTIS tables and sample definitions

This section discusses some of the tables used by MANTIS. Samples of these tables are supplied with MANTIS, and can be found in the MANTIS maclib or jcllib.

Additional tables and/or samples may be distributed with MANTIS on the installation tape, or as part of the installation process. Check the following libraries supplied with MANTIS for these tables: MACLIB, JCLLIB, PROCLIB, SOURCE.

CSOPTABE international symbol/keyword support

The CSOPTABE table (in English) contains reserved words and symbols for MANTIS. This table can be customized by Cincom to support international characters.

NOTE
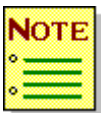
Customizing CSOPTABE is done only by Cincom technical support upon customer request. If you need this, contact your local Cincom representative for assistance.

Native Language Support Translation macro

The C$OPNLST (Native Language Support Translation) macro allows you to specify the upper and lower case equivalent for character sets used on your terminals. It also permits you to specify which control characters should be sent when they appear in data fields and which should be translated to a displayable character.

The language code, either specified on the MANTIS User profile, or specified on the LANGUAGE= statement, indicates which of the supplied tables are to be used. If the current language does not represent the capabilities of the terminal in use ATTRIBUTE(TERMINAL)="NLS(*xxx*)" can be used to specify which table (indicated by *xxx*) is to be used. You might use this for example, when a French speaking user is on a German terminal.

Modify the supplied source example, CSOPNLST, for each MANTIS you want to customize then assemble and link it as part of your installation. You can have different or the same tables for different copies of MANTIS.

Parameter	Description
DISP=	Which control characters in the range X'01'–X'3F' are to be displayed as is (NOT filtered).
LANG=	Language codes corresponding to the translation specified.
LOWER=	Specifies a string of all lowercase characters, in the same sequence and corresponding to the UPPER= string.
SUB=	Substitution character for control characters in data which are to be filtered out.
UPPER=	Specifies a string of all uppercase characters, in the same sequence and corresponding to the LOWER= string.

Native Language Support keyword parameters

This section describes the keyword parameters for the C$OPNLST macro.

DISP=

Description	A list of which control characters in the range X'01'-X'3F' are to be displayed when found in data fields.
Default	(DUP,FM,EO,GE,SO,SI,FF,CR,NL,EM)
Format	A list of Assembler self-defining terms.
Options	May be specified by the hexadecimal value (X'nn'), character value (C'x'), or selected by name from the following lists (sorted by hex and character values):

Sorted by hexadecimal value

NUL	(X'00')	*	NULL
SOH	(X'01')		START OF HEADING
STX	(X'02')		START OF TEXT
ETX	(X'03')		END OF TEXT
PF	(X'04')		PUNCH OFF
HT	(X'05')		HORIZONTAL TAB
LC	(X'06')		LOWERCASE
DEL	(X'07')		DELETE
GE	(X'08')	*	GRAPHIC ESCAPE
RLF	(X'09')		REVERSE LINE FEED
SMM	(X'0A')		START OF MANUAL MESSAGE
VT	(X'0B')		VERTICAL TAB
FF	(X'0C')	*	FORM FEED
CR	(X'0D')	*	CARRIAGE RETURN
SO	(X'0E')	*	SHIFT OUT
SI	(X'0F')	*	SHIFT IN
DLE	(X'10')		DATA LINK ESCAPE
SBA	(X'11')		SET BUFFER ADDRESS

DCI	(X'11')		DEVICE CONTROL 1
EUA	(X'12')		
DC2	(X'12')		DEVICE CONTROL 2
IC	(X'13')		INSERT CHARACTER
TM	(X'13')		TAPE MARK
RES	(X'14')		RESTORE
NL	(X'15')	*	NEW LINE
BS	(X'16')		BACKSPACE
IL	(X'17')		IDLE
CAN	(X'18')		CANCEL
EM	(X'19')	*	END OF MEDIUM
CC	(X'1A')		CURSOR CONTROL
CU1	(X'1B')		CUSTOMER USE 1
DUP	(X'1C')	*	DUPKEY
IFS	(X'1C')		INTERCHANGE FILE SEPARATOR
IGS	(X'1D')		INTERCHANGE GROUP SEPARATOR
SF	(X'1E')		START FIELD
IRS	(X'1E')		INTERCHANGE RECORD SEPARATOR
FM	(X'1E')	*	FIELD MASK
IUS	(X'1F')		INTERCHANGE UNIT SEPARATOR
DS	(X'20')		DIGIT SELECT
SOS	(X'21')		START OF SIGNIFICANCE
FS	(X'22')		FIELD SEPARATOR
BYP	(X'24')		BYPASS
LF	(X'25')		LINE FEED
ETB	(X'26')		END TRANSMISSION BLOCK
ESC	(X'27')		ESCAPE
SM	(X'2A')		SET MODE
CU2	(X'2B')		CUSTOMER USE 2
ENQ	(X'2D')		ENQUIRY
ACK	(X'2E')		ACKNOWLEDGE

BEL	(X'2F')		BELL
SYN	(X'32')		SYNCHRONOUS IDLE
PN	(X'34')		PUNCH ON
RS	(X'35')		READER STOP
UC	(X'36')		UPPERCASE
EOT	(X'37')		END OF TRANSMISSION
CU3	(X'3B')		CUSTOMER USE 3
RA	(X'3C')		REPEAT UNTIL ADDRESS
DC4	(X'3C')		DEVICE CONTROL 4
NAK	(X'3D')		NEGATIVE ACKNOWLEDGE
SUB	(X'3F')		SUBSTITUTE
EO	(X'FF')	*	EIGHT ONES

* Indicates that this value will be sent as field data by default.

Sorted by character value

ACK	(X'2E')		ACKNOWLEDGE
BEL	(X'2F')		BELL
BS	(X'16')		BACKSPACE
BYP	(X'24')		BYPASS
CAN	(X'18')		CANCEL
CC	(X'1A')		CURSOR CONTROL
CR	(X'0D')	*	CARRIAGE RETURN
CU1	(X'1B')		CUSTOMER USE 1
CU2	(X'2B')		CUSTOMER USE 2
CU3	(X'3B')		CUSTOMER USE 3
DC2	(X'12')		DEVICE CONTROL 2
DC4	(X'3C')		DEVICE CONTROL 4
DCI	(X'11')		DEVICE CONTROL 1
DEL	(X'07')		DELETE
DLE	(X'10')		DATA LINK ESCAPE

DS	(X'20')		DIGIT SELECT
DUP	(X'1C')	*	DUPKEY
EM	(X'19')	*	END OF MEDIUM
ENQ	(X'2D')		ENQUIRY
EO	(X'FF')	*	EIGHT ONES
EOT	(X'37')		END OF TRANSMISSION
ESC	(X'27')		ESCAPE
ETB	(X'26')		END TRANSMISSION BLOCK
ETX	(X'03')		END OF TEXT
EUA	(X'12')		
FF	(X'0C')	*	FORM FEED
FM	(X'1E')	*	FIELD MASK
FS	(X'22')		FIELD SEPARATOR
GE	(X'08')	*	GRAPHIC ESCAPE
HT	(X'05')		HORIZONTAL TAB
IC	(X'13')		INSERT CHARACTER
IFS	(X'1C')		INTERCHANGE FILE SEPARATOR
IGS	(X'1D')		INTERCHANGE GROUP SEPARATOR
IL	(X'17')		IDLE
IRS	(X'1E')		INTERCHANGE RECORD SEPARATOR
IUS	(X'1F')		INTERCHANGE UNIT SEPARATOR
LC	(X'06')		LOWERCASE
LF	(X'25')		LINE FEED
NAK	(X'3D')		NEGATIVE ACKNOWLEDGE
NL	(X'15')	*	NEW LINE
NUL	(X'00')	*	NULL
PF	(X'04')		PUNCH OFF
PN	(X'34')		PUNCH ON
RA	(X'3C')		REPEAT UNTIL ADDRESS
RES	(X'14')		RESTORE
RLF	(X'09')		REVERSE LINE FEED

RS	(X'35')		READER STOP
SBA	(X'11')		SET BUFFER ADDRESS
SF	(X'1E')		START FIELD
SI	(X'0F')	*	SHIFT IN
SM	(X'2A')		SET MODE
SMM	(X'0A')		START OF MANUAL MESSAGE
SO	(X'0E')	*	SHIFT OUT
SOH	(X'01')		START OF HEADING
SOS	(X'21')		START OF SIGNIFICANCE
STX	(X'02')		START OF TEXT
SUB	(X'3F')		SUBSTITUTE
SYN	(X'32')		SYNCHRONOUS IDLE
TM	(X'13')		TAPE MARK
UC	(X'36')		UPPERCASE
VT	(X'0B')		VERTICAL TAB

* Indicates that this value will be sent as field data by default.

Consideration If more than one C$OPNLST macro is coded, SUB and DISP from the first occurrence are used, any others are ignored.

LANG=

Description   A language code, or list of language codes, to which the translate tables apply.

Default   'ENU'

Options   One of the following language codes must be specified to be used by MANTIS in the programming statement ATTRIBUTE(TERMINAL)="NLS(*xxx*)":

Code	Language	Code	Language
AFR	Afrikaans	ITS	Swiss Italian
ARA	Arabic	JPN	Japanese
BEL	Byelorussian	KOR	Korean
BGR	Bulgarian	MKD	Macedonian
CAT	Catalan	NLD	Dutch
CHT	Traditional Chinese	NLB	Belgian Dutch
CHS	Simplified Chinese	NON	Norwegian Nynorsk
CSY	Czech	NOR	Norwegian
DAN	Danish	PKL	Polish
GER	German	PTB	Brazilian Portuguese
DES	Swiss German	PTG	Portuguese
ELL	Greek	RMS	Rhaeto-Romanic
ENA	Australian English	ROM	Romanian
ENG	UK English	RUS	Russian
ENU	US English	SKY	Slovakian
ENP	English (uppercase)	SLO	Slovenian

Code	Language	Code	Language
ESP	Spanish	SQI	Albanian
FIN	Finnish	SRB	Serbian (Cyrillic)
FRA	French	SRL	Serbian (Latin)
FRB	Belgian French	SVE	Swedish
FRC	Canadian French	THA	Thai
FRS	Swiss French	TRK	Turkish
GAE	Irish Gaelic	UKR	Ukrainian
HEB	Hebrew	URD	Urdu
HRV	Croatian	U01	User-defined 1
HUN	Hungarian	U02	User-defined 2
ISL	Icelandic	U03	User-defined 3
ITA	Italian	U04	User-defined 4

NOTE
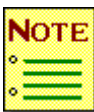
If more than one language code is being specified, enclose them in parentheses and separate them with commas.

Considerations

♦ Use one of the user-defined language codes if you are adding a language which is not in the predefined list.

♦ The first language code specified (in the CSOPNLST) becomes the default translate table if the current language code is not in the table.

♦ You can add the ATTRIBUTE(TERMINAL)="NLS(xxx)" to your MASTER:SIGN_ON program if needed.

LOWER=

Description	Specifies a string of lowercase characters for a language or terminal type.
Default	'*abcdefghijklmnopqrstuvwxyz*'
Format	Any string of 0–256 characters.

Considerations

- ◆ Must be the same size and correspond in sequence to the string of characters specified in the UPPER= string.

- ◆ If more than one lowercase character translates into the same uppercase character, specify the lowercase character last which the uppercase character will translate into on a lowercase function. For example, if lowercase 'a' accent grave translates into uppercase 'A', then specify it as follows:

```
UPPER='BC ... ZAA',
LOWER='bc ... zàa'
```

Similarly, specify the uppercase equivalent last if more than one lowercase letter translates into the same uppercase equivalent.

SUB=

Description   A character into which nondisplay control characters are translated when found in data.

Default   '?'

Format   1-character value that is any displayable character for your terminals.

Consideration   If more than one CSOPNLST macro is coded, SUB and DISP from the first occurrence are used, any others are ignored.

UPPER=

Description   Specifies a string of uppercase characters for a language or terminal type.

Default   '*ABCDEFGHIJKLMNOPQRSTUVWXYZ*'

Format   Any string of 0–256 characters.

Consideration   Must be the same size and correspond in sequence to the string of characters specified in the LOWER= string.

5

Shared Pool Facility

The Shared Pool Facility allows you to place frequently used programs and DL/I call profiles in a Shared Pool, which resides in memory. These programs and DL/I call profiles are shared among all MANTIS tasks in the system. You can use the programs as objects of CHAIN and PROGRAM statements, and the DL/I call profiles when accessing DL/I files. This facility reduces cluster I/O, task storage utilization, and the amount of data rolled in and out on every (CICS pseudoconversational) terminal I/O. You can store any number of programs or DL/I call profiles in the Shared Pool.

If the program resides in the Shared Pool, MANTIS executes the same copy directly in the Shared Pool for all users. All users have their own data work areas, but not a program work area. This helps reduce memory usage. Because each user's work areas are rolled when running in CICS pseudoconversational mode, and there is no program work area when executing from the Shared Pool, less data is rolled. This helps reduce I/O. See "Reentrant MANTIS programs" on page 28 for a detailed discussion.

Programs and DL/I call profiles placed in the Shared Pool are nominated by you, the Master User, by using the Shared Pool Facility. These programs and DL/I call profiles remain available until your CICS system is terminated or you purge the Shared Pool. You can load, disable, or enable entries in the pool at any time.

The Shared Pool Facility consists of the Shared Pool Member List. This is the list of programs and DL/I call profiles that are nominated to be placed in the running Shared Pool when the Shared Pool is loaded. The running Shared Pool is the pool that is loaded in memory.

A MANTIS background task loads the Shared Pool. You can initiate the loading of the Shared Pool:

♦ At CICS startup

♦ The first time the MANTIS transaction is entered from a terminal

♦ From the Shared Pool Facility

For more details on these options, see "Shared Pool Facility" on page 337.

Statistics Facility

MANTIS provides a Statistics Facility, which performs the following:

♦ Assists the Master User in deciding which programs should be nominated to the Shared Pool

♦ Verifies that the Shared Pool is working as expected

Access the Statistics Facility from the Master User's MANTIS Utilities menu. For more information on using this facility, see "Shared Pool Entity Statistics Facility" on page 177.

Shared Pool considerations

In programming mode (Full-Screen Editor or Line Editor), programs are always fetched from the cluster and not the running Shared Pool. This may affect statistics on a development cluster. See "Shared Pool Entity Statistics Facility" on page 177 for more information about keeping statistics.

CICS considerations

The running Shared Pool is always built from a background task. Therefore, you must define the CSOL file, used to capture information from a background task, or the running Shared Pool is not loaded.

You have two options when building the Shared Pool. You can alter CICS start up JCL to initiate a task to build the Shared Pool before anyone signs on to MANTIS, or MANTIS initiates a background task to build the Shared Pool during the first sign on to MANTIS. You can execute the sample program CSOXISPB from phase 2 of the startup DFHPLT program or use serial terminal input.

The following considerations apply when running MANTIS:

♦ Running MANTIS in AMODE 31, RMODE ANY, or running MANTIS in AMODE 31, RMODE 24, the Shared Pool is built above the 16 MB line and can be up to 16 MB (64K is default) and can be changed in the Customization Macro (SPSIZE=), as described in "Customization Macro" on page 252. The size is limited by GETMAIN/GETVIS.

♦ Running MANTIS in AMODE 24, RMODE 24, the Shared Pool is built below the 16 MB line and is a 64K to 512K load module (CSOPSHRP). The size is limited by CICS load module maximum (512K) and is set by the SPSIZE= parameter in the C$OPSHRP macro, which is used to generate the CSOPSHRP load module. See "MANTIS customization and maintenance" on page 251 for information on creating the CSOPSHRP load module.
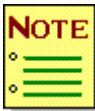
NOTE	If the Customization Macro SHRPMOD= is set to null, the Shared Pool Segment is obtained by a shared CICS GETMAIN instead of loading the Shared Pool Module. Since the CSOPSHRP load module is not used, the size of the Shared Pool Segment is determined by the SPSIZE= parameter in the Customization Macro. See "Customization Macro" on page 252 for more information on the Customization Macro. Also see pages 287 and 289 for information about the parameters SHRPMOD= and SPSIZE=.

Navigating the Shared Pool Facility

The Shared Pool Facility consists of a series of command-driven screens. These screens are functionally identical to the Program Design Facility screens. Refer to Chapter 2 in *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013, for more information on screen overview and system navigation.

Shared Pool entity list

When you select the Shared Pool Facility from the Master User's Facility Selection menu, the Shared Pool Entity List screen (shown below) displays. The Shared Pool Entity List allows you to nominate the programs and DL/I call profiles you want to add to the Shared Pool Member List, to edit the existing Shared Pool Member List, and to control the running Shared Pool currently loaded in memory. See "Shared Pool Facility example" on page 357 for an example using this screen.

```
SHRPLIST00        Shared Pool Entity List (MASTER)        YYYY/MM/DD HH:MM:SS
===>
Action    Name                                Status     Size (K)     Count
--------- -------------------------------- ----------- ------------ ----------
          SHARED_POOL                         EMPTY




















FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F10=ACTION ...
```

ACTION

> **Description**   *Optional*. Initiates an action on the Shared Pool or a display of a subsequent menu.
>
> **Options**   EDIT   Displays the Edit Shared Pool Member List. See "Edit Shared Pool Member List" on page 349 for more information.
>
> LOAD   Loads the programs and DL/I call profiles on the Shared Pool Member List into memory, creating the running Shared Pool.

<table>
<tr>
<td>

NOTE

</td>
<td>

If you add an entity to the Shared Pool Member List, and later you delete that entity from the cluster but you do not remove the entity's name from the Shared Pool Member List, LOAD still operates properly. While LOAD is executing, if an entity is not found on the cluster, MANTIS presents an error screen (SHRSPNE:Entity not found PRGM.*user-name.program-name*). This is just a warning that the entity was not found on the cluster and therefore, cannot be loaded into the running Shared Pool. All other entities on the List (if found on the cluster) are loaded.

</td>
</tr>
</table>

> NOMINATE   Displays the Shared Pool Nominate List. See "Shared Pool Nominate List" on page 344 for more information on the Shared Pool Nominate List. S (for select) is functionally equivalent to NOMINATE.
>
> PROFILE   Displays the Shared Pool Profile Data screen showing entity types, counts, and sizes of entities nominated in the Shared Pool Member List and loaded in the running Shared Pool. See "Shared Pool Profile Data" on page 354 for more information.
>
> PURGE   Purges the running Shared Pool from memory. Releases storage acquired for the pool. Subsequent accesses to programs and DL/I call profiles that existed in the running Shared Pool now come from the SETPRAY cluster.
>
> The Shared Pool should not be PURGEd if active MANTIS tasks exist, including rolled-out pseudoconversational tasks. The PURGE command is intended to be used only in emergency situations. Abends may occur if it is used on a system with executing MANTIS tasks. DISABLE followed by a NEWCOPY is recommended for the unusual situations where a production change to a Shared Pool program is required. Only attempt a PURGE and LOAD during a period of system inactivity (e.g., no in-flight MANTIS tasks).

NAME

Description   Displays Shared Pool Member List names.

Consideration Only one Shared Pool Member List, SHARED_POOL, is defined at this time.

STATUS

Description   Displays the current status of the running Shared Pool.

Options   EMPTY   Indicates the Shared Pool Member List contains no programs or DL/I call profiles.

INACTIVE   Indicates the Shared Pool Member List contains programs and/or DL/I call profiles, but the running Shared Pool was not built or the running Shared Pool was purged.

LOADED   Indicates the running Shared Pool was built. All programs and DL/I call profiles on the Shared Pool Member List are loaded into memory.

Consideration This field is automatically updated by MANTIS.

SIZE

Description   Displays the current size of the Shared Pool Member List (to the nearest tenth of a kilobyte), or the size of the running Shared Pool when the pool is loaded into memory.

Considerations

- ♦ When you add programs to the Shared Pool Member list, the size of each program is taken from the cluster. All individual sizes are added together to form the total size of the pool. DL/I call profile sizes are not indicated.

- ♦ When the Shared Pool Member List is loaded (creating the running Shared Pool) the size of each program and DL/I call profile is the actual size that the program or DL/I call profile requires when loaded into memory. The Shared Pool Member List is updated with this new size, and the total size of the pool is updated. When the running Shared Pool is purged, the size returns to the preloaded size.

- ♦ MANTIS automatically updates this field.

COUNT

Description   Displays the total number of programs and DL/I call profiles that are in the Shared Pool Member List.

Consideration MANTIS automatically updates this field.

Shared Pool Nominate List

NOTE	CONTROL:Manufacturing programs and other Cincom-protected library programs (CONTROL, VPF, etc.) may physically exist but not have associated Extended Entity Profile Records (EEPR), which means these programs will not show up in the Shared Pool Nominate List. To nominate CONTROL:Manufacturing programs for the Shared Pool, you must populate EEPR for user CSI_MSD by following these steps: 1. Sign on to the MASTER user. 2. Select the Design a User Profile option (option 7). 3. Enter CSI_MSD as the user name. 4. Select the Create Extended Program Profiles option (option 8). After completing these steps, CSI_MSD programs will appear in the Shared Pool Nominate List.
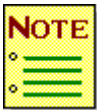
NOTE	Selecting the Directory of Users option (option 4) lists all Cincom protected users currently installed on your system.

When you enter NOMINATE or S (select) on the ACTION line of the
Shared Pool Entity List (see screen illustration on page 340), the Shared
Pool Nominate List displays as in the following screen illustration. The
Shared Pool Nominate List displays programs and DL/I call profiles for
selection. You can nominate the programs and DL/I call profiles you
want to add to the Shared Pool Member List from this screen. See
"Shared Pool Facility example" on page 357 for an example using this
screen.

```
 SHRPLIST01             Shared Pool Nominate List (MASTER)     YYYY/MM/DD HH:MM:SS
 ===>
 Action    User            Type Name                             Size  Status
 --------- --------------- ---- ------------------------------- ----- --------
           MASTER          PRGM BATCH_FACILITY                    946 ACTIVE
           MASTER          PRGM CP                                502 ACTIVE
           MASTER          PRGM DISP_A                            215 ACTIVE
           MASTER          PRGM DLI_35_TO_37                     2532 ACTIVE
           MASTER          PRGM DR_COPY0                         9392 ACTIVE
           MASTER          PRGM DR_COPY1                          627 ACTIVE
           MASTER          PRGM DR_COPY2                          658 ACTIVE
           MASTER          PRGM DR_COPY3                          352 ACTIVE
           MASTER          PRGM DR_COPY4                          627 ACTIVE
           MASTER          PRGM DR_COPY5                          627 ACTIVE
           MASTER          PRGM DR_UCO                            305 ACTIVE
           MASTER          PRGM EXIT                              324 ACTIVE
           MASTER          PRGM FACILITY                         1859 ACTIVE
           MASTER          PRGM FACILITY_52                      1863 ACTIVE
           MASTER          PRGM ME_SQLBIND_TEST                  1569 ACTIVE
           MASTER          PRGM PAT_TEST                          169 ACTIVE
           MASTER          PRGM PP_TEST                           331 ACTIVE
           MASTER          PRGM RUN_BROWSE                       1314 ACTIVE
 FACF03I:More records follow
  F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD  F9=RETRIEVE ...
```

ACTION

Description   *Optional*. Initiates an action on the Shared Pool Nominate List.

Options   FORWARD   Scrolls the directory list forward to the next screen. FWD is functionally equivalent.

LOAD   Loads the program or DL/I call profile directly into the Shared Pool currently in memory. This option adds the program or DL/I call profile to the Shared Pool Member List as a temporary member (indicated by a T in the first position of the member status). The program or DL/I call profile exists in the Shared Pool (in memory) for the current CICS session only.

LOCATE   Locates a program or DL/I call profile. See "Shared Pool Facility example" on page 357 for more information. L is functionally equivalent to LOCATE.

PROFILE   Displays the Shared Pool Profile Data screen showing entity types, counts, and sizes of entities nominated in the Shared Pool Member List and loaded in the running Shared Pool. See "Locating an entity" on page 355 for more information.

SHRPITEM   Adds the program or DL/I call profile to the Shared Pool Member List. S (for select) is functionally equivalent to SHRPITEM. The entities in the Shared Pool Member List are loaded the first time through MANTIS or as a result of action from the PLT.

USER

Description   *Display* (except for first line). Displays the user (library) name.

Consideration You can use the first entry in this column to locate to another user. Enter the name of that user and press ENTER. The list redisplays, beginning with that user (the same TYPE and NAME display, if applicable).

TYPE

> **Description**   *Display* (except for first line). Displays the entity type for the program or DL/I call profile.

> **Options**   PRGM   Indicates the entity on this line is a program.

>   DLIP   Indicates the entity on this line is a Qualified DL/I call profile.

>   DLIU   Indicates the entity on this line is an Unqualified DL/I call profile.

> **Consideration** You can use the first entry in this column to locate to another entity type. Enter the entity type and press ENTER. The list redisplays, beginning with that entity type (the same USER and NAME display, if applicable).

NAME

> **Description**   *Display* (except for first line). Displays the program or DL/I call profile name.

> **Consideration** You can use the first entry in this column to locate to another program or DL/I call profile. Enter the name of the program or DL/I call profile, and press ENTER. The list redisplays beginning with that program or DL/I call profile (the same USER and TYPE display, if applicable).

SIZE

> **Description**   *Display*. Displays the size (to the nearest tenth of a kilobyte) of the program or DL/I call profile on the cluster.

> **Considerations**

> ♦ When you add programs or DL/I call profiles to the Shared Pool Member List, the size of each program is taken from the cluster. All individual sizes are added together to form the total size of the pool. DL/I call profile sizes are not indicated.

> ♦ When the Shared Pool is loaded, the size of each program and DL/I call profile is the actual size that the program or DL/I call profile requires when loaded into memory. The Shared Pool Member List is updated with the new size, and the total size of the pool is updated. When the running Shared Pool is purged, the size returns to the preloaded size.

> ♦ MANTIS automatically updates this field.

STATUS

Description   Displays the current status of the program or DL/I call profile.

Options   ACTIVE   The entity currently has an ACTIVE status on the MANTIS cluster.

LIST   The program or DL/I call profile exists on the Shared Pool member list but is not loaded into memory.

BOR   Program was bound in release 4.25 and is therefore not executable on later releases. The program should be fetched in the FSE and replaced (rebind if desired).

NOMINATED   The program has just been added to the Shared Pool.

NOPROG   No program exists (no program code). The EEPR exists, but the program does not. It is recommended that you run the Purge All Extraneous EEPR utility to correct this situation. See "Purge All Extraneous EEPR" on page 163 for information on this utility.

(T)DISABLED   The program or DL/I call profile that was (temporarily) loaded into the running Shared Pool was disabled. The program or DL/I call profile is not a permanent member of the Shared Pool Member List.

(T)ENABLED   The program or DL/I call profile that was (temporarily) loaded into the running Shared Pool, and subsequently disabled, is now enabled and again available for execution. The program or DL/I call profile is not a permanent member of the Shared Pool Member List.

(T)LOADED   The program or DL/I call profile was (temporarily) loaded into the running Shared Pool.

(T)NEWCOPY   The program or DL/I call profile that was (temporarily) loaded into the running Shared Pool currently in memory was refreshed from the cluster. The program or DL/I call profile is not a permanent member of the Shared Pool Member List.

Consideration MANTIS automatically updates this field.

Edit Shared Pool Member List

When you enter EDIT on the ACTION line of the Shared Pool Entity List screen (see screen illustration on page 340), the Edit Shared Pool Member List displays as in the following screen illustration. The Edit Shared Pool Member List displays programs and DL/I call profiles currently in the Shared Pool Member List. You can insert new members, delete members, and enable/disable/newcopy members on this list. See "Shared Pool Facility example" on page 357 for an example using this screen.

```
 SHRPLIST02       Edit Shared Pool Member List (MASTER)     YYYY/MM/DD HH:MM:SS
 ===>
 Action     User             Type Name                          Size  Status
 ---------  ----------------  ---- -------------------------------  -----  --------
            MASTER            PRGM SIGN_ON                          1980  ACTIVE
            MASTER            PRGM START_FACILITY                   1460  ACTIVE
            MASTER            PRGM TERMINATE                         664  ACTIVE




















 FACF09I:End of file
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

ACTION

> **Description** *Optional.* Initiates an action on the Edit Shared Pool Member List.
>
> **Options** DELETE Deletes a member from the Shared Pool Member List. If the Shared Pool is currently built in memory, this option does not delete the copy of the program or DL/I call profile loaded in the Shared Pool.
>
> DISABLE Disables a program in the running Shared Pool. After disabling, the program is marked as unavailable. The entity has not been deleted from the running Shared Pool and can be ENABLEd later. New accesses to the disabled program will access the cluster for the program.

NOTE	Executing DISABLE on a DL/I call profile in the running Shared Pool returns an action STATUS of IGNORED. Refreshing the screen returns the STATUS to its previous status.

> ENABLE Enables a program that was previously disabled. The program is now able to be accessed again from the Shared Pool.

NOTE	Executing ENABLE on a DL/I call profile in the running Shared Pool returns an action STATUS of IGNORED. Refreshing the screen returns the STATUS to its previous status.

> FORWARD Scrolls the directory list forward to the next screen. FWD is functionally equivalent.
>
> INSERT Enter this option on first action line with new library, type, and name; or enter this option on the command line to display dialog screen.
>
> LOAD Loads the program or DL/I call profile into the running Shared Pool.

LOCATE   Locates a program or DL/I call profile. See "Shared Pool Facility example" on page 357 for more information. L is functionally equivalent to LOCATE.

NEWCOPY   Brings in a new copy of the program or DL/I call profile from the cluster refreshing the running Shared Pool entity.
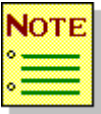
> **NOTE**
>
> New accesses to the program or DL/I call profile are directed to the new copy. MANTIS does not compress or recover space from the old versions. Because programs are reentrant and shared by many tasks, moving a program in storage that users may still be executing would cause unpredictable results. The entire running Shared Pool must be purged and reloaded to recover the space occupied by old versions of programs and DL/I call profiles. See "Reentrant MANTIS programs" on page 28 for a discussion of reentrancy in MANTIS programs.

PROFILE   Displays the Shared Pool Profile Data screen showing entity types, counts, and sizes of entities nominated in the Shared Pool Member List and loaded in the running Shared Pool. See "Locating an entity" on page 355 for more information.

USER

Description   *Display* (except for first line). Displays the user (library) name.

Consideration You can use the first entry in this column to locate to another user. Enter the name of that user and press ENTER. The list redisplays beginning with that user.

TYPE

Description   *Display* (except for first line). Displays the entity type for the program or DL/I call profile.

Options   PRGM   Indicates that the entity on this line is a program.

DLIP   Indicates that the entity on this line is a Qualified DL/I call profile.

DLIU   Indicates that the entity on this line is an Unqualified DL/I call profile.

Consideration You can use the first entry in this column to locate to another entity type. Enter the entity type and press ENTER. The list redisplays beginning with that entity type.

NAME

Description *Display* (except for first line). Displays the program or DL/I call profile name.

Consideration You can use the first entry in this column to locate to another program or DL/I call profile. Enter the name of the program or DL/I call profile, and press ENTER. The list redisplays beginning with that program or DL/I call profile.

SIZE

Description *Display*. Displays the size (to the nearest tenth of a kilobyte) of the program or DL/I call profile on the cluster.

Considerations

- ◆ When you add programs or DL/I call profiles to the Shared Pool Member List, the size of each program is taken from the cluster. All individual sizes are added together to form the total size of the pool. DL/I call profile sizes are all indicated as zero.

- ◆ When the running Shared Pool is loaded, the size of each program and DL/I call profile is the actual size that the program or DL/I call profile requires when loaded into memory. The Shared Pool Member List is updated with the new size, and the total size of the pool is updated.

- ◆ MANTIS automatically updates this field.

STATUS

Description   Displays the current status of the program or DL/I call profile.

Options   LIST   The program or DL/I call profile was added to the Shared Pool Member List, but is not loaded into the running Shared Pool.

DELETED   The program/DL/I call profile was removed from the Shared Pool Member List. It remains on the screen until the next refresh.

IGNORED   You attempted to execute a command against a program or DL/I call profile that was previously deleted (and the screen was not refreshed). For example, if you delete a program from the list and do not refresh the screen, the program's name still exists. Attempting to execute an action against the program again, or executing disable/enable against DL/I call profile, causes an IGNORED status.

NOTFOUND The user and program (or DL/I call profile) do not exist on the cluster. The EEPR record exists, but not the user or program (or DL/I call profile). This is a combination of the NOPROG and NOUSER statuses. We recommend that you run the Purge All Extraneous EEPR utility to correct this situation. See "Purge All Extraneous EEPR" on page 163 for more information.

EMPTY   The program or DL/I Call Profile does not exist on the EEPR. The cluster record exists but not extended entity profile records. It is recommended that you run the Create extended program profiles for the user (see "Create Extended Entity Profile Records" on page 74).

(T)DISABLED   The program that was (temporarily) loaded into the running Shared Pool was DISABLEd. The program is not a permanent member of the Shared Pool Member List.

(T)ENABLED   The program that was loaded temporarily into the running Shared Pool, that was disabled, is now enabled and available for execution. The program is not a permanent member of the Shared Pool Member List.

(T)LOADED   The program or DL/I call profile was loaded temporarily into the running Shared Pool currently in memory. If (T), the program or DL/I call profile is not a permanent member of the Shared Pool Member List.

(T)NEWCOPY   The program or DL/I call profile that was (temporarily) loaded into the running Shared Pool currently in memory was refreshed from the cluster. If (T), the program or DL/I call profile is not a permanent member of the Shared Pool Member List.

Consideration MANTIS automatically updates this field.

Shared Pool Profile Data

You can enter PROFILE on the selection line or command line in the Shared Pool Entity List, Shared Pool Nominate List, and Edit Shared Pool Member List screens. The PROFILE command displays the entity types, counts, and sizes for entities nominated in the Shared Pool Member List, and loaded in the running Shared Pool. When PROFILE is entered in the selection line of one of the screens listed above, the following screen displays:

```
SHRPPROF00      Shared Pool Profile Data (SHARED_POOL)      YYYY/MM/DD HH:MM:SS
 ===>
 Type  List Count        List Size        Load Count        Load Size
 ----  ---------------- ---------------- ---------------- ----------------
 DLIP                 6             4384                2             4384
 PRGM                 3              531                3              540




 



 TOTL                 9             4915                5             4924




 FACF09I:End of file
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F9=RETRIEVE  F10=ACTION  F12=CANCEL ...
```

Locating an entity

The LOCATE (L) command repositions the Shared Pool Nominate Entry Screen and the Edit Shared Pool Member List to a specific program or DL/I call profile. You can enter LOCATE (or L) on the ACTION field next to a program or DL/I call profile to reposition the list for that program or DL/I call profile to the top of the list.

You can enter LOCATE (or L) followed by parameters on the command line to locate a user name, entity type, and/or program or DL/I call profile. For example:

```
  ===> LOCATE PRGM."MASTER:SIGN_ON"
```

locates the first program (PRGM) in the MASTER user named (or starting with) SIGN_ON. The entity type comes first (PRGM (program), DLIP (DL/I Qualified call profile) and DLIU (DL/I Unqualified call profile) are valid entity types), followed by a period as a separator from the user name and program (or DL/I call profile) name.

You can reposition the Shared Pool Nominate Entry screen and the Edit Shared Pool Member list to the first entity (TOP) of the list by entering only LOCATE (L) on the command line.

Another option is to enter a user name, entity type, and/or program or DL/I call profile name in the fields on the first line of the listing. The following figure illustrates searching for the SIGN_ON program in the Master User:

```
SHRPLIST01     Shared Pool Nominate Entry Screen (MASTER)  YYYY/MM/DD HH:MM:SS
===>
Action    User               Type Name                             Size  Status
--------- ---------------- ---- ------------------------------ ----- --------
          master             prgm sign_on
_____ MASTER             PRGM CP                                 502 ACTIVE
_____ MASTER             PRGM DISP_A                             215 ACTIVE
_____ MASTER             PRGM DLI_35_TO_37                      2532 ACTIVE
_____ MASTER             PRGM DR_COPY0                          9392 ACTIVE
_____ MASTER             PRGM DR_COPY1                           627 ACTIVE
_____ MASTER             PRGM DR_COPY2                           658 ACTIVE
_____ MASTER             PRGM DR_COPY3                           352 ACTIVE
_____ MASTER             PRGM DR_COPY4                           627 ACTIVE
_____ MASTER             PRGM DR_COPY5                           627 ACTIVE
_____ MASTER             PRGM DR_UCO                             305 ACTIVE
_____ MASTER             PRGM EXIT                               324 ACTIVE
_____ MASTER             PRGM FACILITY                          1859 ACTIVE
_____ MASTER             PRGM FACILITY_52                       1863 ACTIVE
_____ MASTER             PRGM ME_SQLBIND_TEST                   1569 ACTIVE
_____ MASTER             PRGM PAT_TEST                           169 ACTIVE


FACF03I:More records follow
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

Shared Pool Facility example

The following example illustrates how to use the Shared Pool Facility. When you select the Shared Pool Facility from the Master User's Facility Selection Menu, the Shared Pool Entity List displays:

```
SHRPLIST00          Shared Pool Entity List (MASTER)         YYYY/MM/DD HH:MM:SS
===>
Action    Name                              Status      Size        Count
--------- --------------------------------- ----------- ----------- ----------
nominate_ SHARED_POOL                       EMPTY








FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F10=ACTION ...
```

Currently the STATUS is EMPTY and SIZE and COUNT are blank. This indicates the Shared Pool Member List is empty. Type NOMINATE ('S') on the ACTION field next to the SHARED_POOL Shared Pool Member List to display the Shared Pool Nominate Entry Screen.

Type SHRPITEM, or 'S', (to select) in the ACTION field next to the program to be added to the Shared Pool Member List. Placing an equal sign (=) in following ACTION fields repeats the SHRPITEM command. This nominates entities to be added to the list to be loaded daily at MANTIS initialization, but does not load them in the running Shared Pool at this time.

```
 SHRPLIST01              Shared Pool Nominate List (MASTER)    YYYY/MM/DD HH:MM:SS
 ===>
 Action    User             Type Name                              Size  Status
 --------- ---------------- ---- ------------------------------- ----- --------
shrpitem_ MASTER            PRGM SIGN_ON                           1979 ACTIVE
          MASTER            PRGM SIGN_ON_52                        1655 ACTIVE
          MASTER            PRGM SKELETON_NUMBER                   1267 ACTIVE
          MASTER            PRGM SKELETON_TEXT                     1272 ACTIVE
          MASTER            PRGM SQL_INSTALL_CHECK_DB2             2099 ACTIVE
          MASTER            PRGM SQL_INSTALL_CHECK_SQLDS           2145 ACTIVE
          MASTER            PRGM SQL_TM                            1567 ACTIVE
=         MASTER            PRGM START_FACILITY                    1457 ACTIVE
          MASTER            PRGM START_FACILITY_LE                 1494 ACTIVE
          MASTER            PRGM START_FACILITY_SECURITY           1563 ACTIVE
          MASTER            PRGM START_FACILITY_52                 1457 ACTIVE
          MASTER            PRGM START_PU103                       1495 ACTIVE
=         MASTER            PRGM TERMINATE                          663 ACTIVE
          MASTER            PRGM TERMINATE_42                       453 ACTIVE
          MASTER            PRGM TERMINATE_52                       525 ACTIVE
          MASTER            PRGM TEST_FACILITY                     1317 ACTIVE
          MASTER            PRGM TIS_LUV_DEBUG                      193 ACTIVE
          MASTER            PRGM TRANSFER_OPCLOS                    739 ACTIVE
FACF03I:More records follow
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

Pressing ENTER displays the updated screen on the following page.

This screen shows that the selected items have been added to the
Shared Pool Member List. To refresh this screen, press PF5.

```
SHRPLIST01              Shared Pool Nominate List (MASTER)    YYYY/MM/DD HH:MM:SS
 ===>
 Action    User            Type Name                              Size  Status
 --------- --------------- ---- -------------------------------- ----- --------
*SHRPITEM MASTER             PRGM SIGN_ON                          1979 NOMINATE
          MASTER             PRGM SIGN_ON_52                       1655 ACTIVE
_____ MASTER             PRGM SKELETON_NUMBER                  1267 ACTIVE
_____ MASTER             PRGM SKELETON_TEXT                    1272 ACTIVE
_____ MASTER             PRGM SQL_INSTALL_CHECK_DB2            2099 ACTIVE
_____ MASTER             PRGM SQL_INSTALL_CHECK_SQLDS          2145 ACTIVE
_____ MASTER             PRGM SQL_TM                           1567 ACTIVE
*SHRPITEM MASTER             PRGM START_FACILITY                   1457 NOMINATE
_____ MASTER             PRGM START_FACILITY_LE                1494 ACTIVE
_____ MASTER             PRGM START_FACILITY_SECURITY          1563 ACTIVE
_____ MASTER             PRGM START_FACILITY_52                1457 ACTIVE
_____ MASTER             PRGM START_PU103                      1495 ACTIVE
*SHRPITEM MASTER             PRGM TERMINATE                         663 NOMINATE
_____ MASTER             PRGM TERMINATE_42                      453 ACTIVE
_____ MASTER             PRGM TERMINATE_52                      525 ACTIVE
_____ MASTER             PRGM TEST_FACILITY                    1317 ACTIVE
_____ MASTER             PRGM TIS_LUV_DEBUG                     193 ACTIVE
_____ MASTER             PRGM TRANSFER_OPCLOS                   739 ACTIVE
 FACF03I:More records follow
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

To return to the Shared Pool Entity List screen, press PF3.

Returning to the Shared Pool Entry List and pressing PF5 shows:

♦   The STATUS was updated to INACTIVE, indicating that the Shared Pool Member List has members added, but none were actually loaded.

♦   The SIZE field was updated to 3.8 to indicate the total size in kilobytes of the three nominated programs.

♦   The COUNT field was updated to 3, reflecting the three nominated programs.

```
SHRPLIST00         Shared Pool Entity List (MASTER)          YYYY/MM/DD HH:MM:SS
===>
Action     Name                               Status      Size         Count
---------  ------------------------------     ----------  ------------ ----------
load____   SHARED_POOL                        INACTIVE          4099            3

FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F10=ACTION ...
```

Load the Shared Pool Member List (building the running Shared Pool) by entering the LOAD command in the ACTION line and pressing ENTER.

Now that the running Shared Pool was built, pressing PF5 to refresh the screen shows:

♦ The STATUS was updated to LOADED, indicating that the programs in the Shared Pool Member List were loaded into memory, building the running Shared Pool.

♦ The SIZE field was updated to 3.9 kilobytes. When the Shared Pool Member List is loaded it creates the running Shared Pool, the size of each program is the actual size that the program requires when loaded into memory. The Shared Pool Member List is updated with this new size and the total size of the pool is updated.

```
SHRPLIST00          Shared Pool Entity List (MASTER)         YYYY/MM/DD HH:MM:SS
===>
Action     Name                                Status      Size         Count
---------  --------------------------------    ----------- ------------ ----------
edit_____  SHARED_POOL                         LOADED              4104          3












FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F10=ACTION ...
```

To edit the Shared Pool Member List and running Shared Pool, enter the EDIT command in the ACTION line.

The three programs you added to the Shared Pool Member List, and
subsequently loaded into the running Shared Pool, are listed here. The
STATUS of each program is LOADED, indicating that it is in the running
Shared Pool. The SIZE of each program is automatically adjusted to the
nearest tenth of a kilobyte to reflect the actual size the program uses in
memory.

```
SHRPLIST02        Edit Shared Pool Member List (MASTER)      YYYY/MM/DD HH:MM:SS
===>
Action    User               Type Name                             Size  Status
--------- ---------------- ---- -------------------------------- ----- --------
disable_   MASTER             PRGM SIGN_ON                           1980 LOADED
           MASTER             PRGM START_FACILITY                    1460 LOADED
newcopy_   MASTER             PRGM TERMINATE                        15716 LOADED











FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

DISABLE is executed on the SIGN_ON program. Disabling a program marks the program as unavailable, and when a user executes this program, the program is loaded from the cluster for the user's execution only. Also, NEWCOPY is executed on the TERMINATE program. NEWCOPY loads a new version of the program from the SETPRAY cluster.

> **NOTE**
>
> New accesses to the program or DL/I call profile are directed to the new copy. MANTIS does not compress or recover space from the old versions. Because programs are reentrant and shared by many tasks, moving a program in storage that users may still be executing would cause unpredictable results. The entire running Shared Pool must be PURGEd and reLOADed to recover the space occupied by old versions of programs and DL/I call profiles. See "Reentrant MANTIS programs" on page 28 for more information.

MANTIS displays a Confirmation Screen whenever you issue a command against the running Shared Pool. In this case, you receive one for DISABLE and one for the NEWCOPY. The following sample Confirmation Screen displays:

```
SHRPLIST02      Disable Member Entry Panel              YYYY/MM/DD HH:MM:SS
===>
FROM
  Library . . .  MASTER            Type:  PRGM
  Name  . . . .  SIGN_ON

THRU
  Library . . .  MASTER            Type:  PRGM
  Name  . . . .  SIGN_ON


Entry Options           Function Options           Process Statistics
  Immediate? . . . .   Y                              Processed  . .
  Confirmation?  . .   Y                              Skipped  . . .
                                                      Errors . . . .


DISABLE    PRGM.MASTER            :SIGN_ON




FACU01I:CONFIRM or SKIP
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F6=EXECUTE  F7=CONFIRM ...
```

Confirm your intention to execute these commands by pressing PF7. After confirmation, press PF3 to return to the Edit Shared Pool Member List.

You can change these defaults (such as confirm=yes) by modifying the appropriate "SHRP_<action>" dialog record. See "Copy Extended Dialog Profile Records (EDPR)" on page 64 for information on modifying dialog records.

The STATUS of SIGN_ON has changed to DISABLED, indicating the program is no longer available for execution from the running Shared Pool. The STATUS of TERMINATE has changed to NEWCOPY, indicating that a new version of the program was copied into the running Shared Pool.

> **NOTE**
>
> The STATUS of each entity continues to reflect the last command executed against that entity. In this way, you can determine if any program is disabled, re-enabled, or was newcopied.

```
SHRPLIST02      Edit Shared Pool Member List (MASTER)      YYYY/MM/DD HH:MM:SS
===>
Action    User              Type Name                                Size  Status
--------- ----------------  ---- ------------------------------ ----- --------
enable___  MASTER            PRGM SIGN_ON                              1980 DISABLED
_____  MASTER            PRGM START_FACILITY                       1460 LOADED
_____  MASTER            PRGM TERMINATE                           15716 NEWCOPY





















FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

You can ENABLE the SIGN_ON program to mark it as available again.

A confirmation screen for the ENABLE command displays. Confirm your intention to execute this command by pressing PF7. After confirmation, press PF3 to return to the Edit Shared Pool Member List.

The STATUS of SIGN_ON has changed to ENABLED, indicating the program is again available for execution from the running Shared Pool.

> **NOTE**
>
> The STATUS of each entity continues to reflect the last command executed against that entity. In this way, you can determine if any program was DISABLED, and re-ENABLED again. Note that TERMINATE still reflects a STATUS of NEWCOPY.

```
 SHRPLIST02       Edit Shared Pool Member List (MASTER)     YYYY/MM/DD HH:MM:SS
 ===>
 Action    User            Type Name                              Size  Status
 --------- --------------- ---- -------------------------------- ----- --------
           MASTER          PRGM SIGN_ON                           1980 ENABLED
 _____ MASTER          PRGM START_FACILITY                    1460 LOADED
 _____ MASTER          PRGM TERMINATE                        15716 NEWCOPY










 FACF09I:End of file
 F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F8=FORWARD F9=RETRIEVE ...
```

Return to the Shared Pool Entry List by pressing PF3.

To PURGE the running Shared Pool, type the PURGE command on the ACTION line next to the Shared Pool Member List (SHARED_POOL). You receive a confirmation screen and confirm your intention to purge the pool by pressing PF7. After confirmation, press PF3 to return to the Shared Pool Entry List.

```
SHRPLIST00          Shared Pool Entity List (MASTER)        YYYY/MM/DD HH:MM:SS
===>
Action    Name                                  Status      Size        Count
--------- ------------------------------------- ----------- ----------- ----------
purge____ SHARED_POOL                           LOADED             4104          3












FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F10=ACTION ...
```

The Shared Pool Entry List is automatically refreshed (you can refresh all other screens by pressing PF5). The STATUS of the Shared Pool has changed to INACTIVE, indicating the running Shared Pool was purged from memory, and the size of the pool has returned to the size of the sum of all nominated programs.

```
SHRPLIST00         Shared Pool Entity List (MASTER)        YYYY/MM/DD HH:MM:SS
===>
Action    Name                                  Status      Size        Count
--------- ------------------------------------- ----------- ----------- ----------
          SHARED_POOL                           INACTIVE          4099          3

















FACF09I:End of file
F1=HELP  F2=EXHELP  F3=EXIT  F4=PROMPT  F5=REFRESH  F9=RETRIEVE  F10=ACTION ...
```

Shared Pool Facility candidates

The following table lists candidates for the Shared Pool Facility. Approximate program sizes are provided to assist you in estimating the amount of storage needed. The table shown on page 372 lists Shared Pool recommendations for the Software Selection Facility (ACCESS).

NOTE
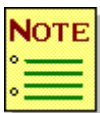
If you receive a PSM error message when executing a program from the Shared Pool, the corrective action is to remove the program from the Shared Pool list. Refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004, for descriptions of error messages.

NOTE

The sizes contained in the following table have been rounded up to the next .5K.

Program Name	Description	Size (K)
CONTROL:ACCESS †	External file view design	26.5
CONTROL:ASP *†	Release 5 screen design	34.0
CONTROL:DIRMMENU †	Directory facility	9.0
CONTROL:DIRREGLR †	Directory of regular entities	11.8
CONTROL:DIRSCRNS †	Directory of screens, programs, and interfaces	12.5
CONTROL:DLI_FACILITY †	DL/I access view	4.0
CONTROL:DLI_PROFILE †	Call profile design	28.5
CONTROL:DLI_SEGMENT †	Segment layout design	16.0
CONTROL:DLI_UNQUALIFIED †	Unqualified call profile designs	12.5
CONTROL:FSE_DYNMAP †	Creates full-screen editor screen	4.0
CONTROL:FSE_EDIT *†	Mainline FSE processor	47.0
CONTROL:FSE_LINECOM *†	Line command processor	14.0
CONTROL:FSE_PARSER *†	FIND/CHANGE processing	21.0
CONTROL:FSE_PROFILE †	Maintain edit profile	4.5

*   Recommended for inclusion.
** The program CASE:CASE_FILE_MAINT cannot be loaded into the Shared Pool. Executing this program from the Shared Pool causes a PSM error message. Refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004, for descriptions of error messages.
†   Development environment.
‡   Both development and production environments.

Program Name	Description	Size (K)
*‡ CONTROL:INITIAL_TASK	MANTIS initialization program	23.0
† CONTROL:INTERFACE	Enhanced interface design	23.0
† CONTROL:MPFINSTL	Check for TOTAL and DL/I	3.5
† CONTROL:MPFMMENU	MANTIS print facility (online)	22.0
† CONTROL:MPFPRINT	Driver for MANTIS print	7.0
† CONTROL:MPFRECID	Recognize ID	3.5
† CONTROL:MPFSELCT	Process SELECT	3.5
*† CONTROL:PROGRAM	Program design	2.5
† CONTROL:PROMPTER	Prompter design	9.0
† CONTROL:RUN_A_PROGRAM	Run a program by name	1.0
† CONTROL:SETS	MANTIS file design	20.0
*‡ CONTROL:SIGN_ON	Sign on as another user	9.5
*‡ CONTROL:TERMINATE	Terminate a user	1.0
† CONTROL:TOTAL_VIEW	TOTAL view design	14.5
† CONTROL:TRANSFER	Transfer facility	20.0
*‡ MASTER:SIGN_ON	Chains to CONTROL:SIGN_ON	2.5
*† MASTER:START_FACILITY	MANTIS facilities	2.0

*   Recommended for inclusion.
**   The program CASE:CASE_FILE_MAINT cannot be loaded into the Shared Pool. Executing this
      program from the Shared Pool causes a PSM error message. Refer to *MANTIS Messages and
      Codes, OS/390, VSE/ESA*, P39-5004, for descriptions of error messages.
†   Development environment.
‡   Both development and production environments.

Program Name	Description	Size (K)
New Program Design Facility and Component Engineering Facility		
MASTER:TERMINATE *‡	Terminate session	1.0
VPF:ADOP_EEPR_LIST*†	Program list processor	37.0
VPF:ADOP_EREF_LIST †	Bill of materials	38.5
VPF:ADOP_EXECUTE_ACTION1 *†	Primary commands parameter entry	41.5
VPF:ADOP_EXECUTE_ACTION2 †	COPY command parameter entry	41.5
VPF:ADOP_EXECUTE_ACTION3 †	RENAME command parameter entry	41.5
VPF:ADOP_PRGM_MENU *†	Program design facility menu program	41.5
VPF:ADOX_BRANCHER *†	Branch controller	10.0
VPF:ADOX_INIT_DIALOG *†	Initialize the dialog	8.0
VPF:ADOX_INIT_DIALOG_EDIT *†	Initialize dialog for FSE	4.0
VPF:ADOX_INIT_OPTIONS *†	Initialize the dialog options	2.5
VPF:ADOX_UPDATE_AUDIT_ ATTRIBUTES †*	Update EEPR and LOG for design actions	12.5
VPF:ADOX_UPDATE_AUDIT_ ATTRIBUTES2 †	Update EEPR and LOG for HPO, CEF, SQL	15.5
Entity transformers**		
CASE:CASE_CREATE †	Entity encoder for transform/merge	20.5
CASE:CASE_DECODE †	Entity decoder for transform/merge	14.0
CASE:CASE_SELECT †	Access E/T from Facility Selection Menu	13.5
CASE:CASE_SELECT_ADO †	Access E/T from Facility Selection Menu	1.0

*   Recommended for inclusion.
**   The program CASE:CASE_FILE_MAINT cannot be loaded into the Shared Pool. Executing this program from the Shared Pool causes a PSM error message. Refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004, for descriptions of error messages.
†   Development environment.
‡   Both development and production environments.

Program Name	Description	Size (K)
CSI_XREF Facility		
CSI_XREF:UNUSED_ENTITIES †	List entities currently not used	3.0
CSI_XREF:WHAT_IT_USES †	List what an entity uses	7.0
CSI_XREF:ELEMENT_XREF †	Element cross reference inquiry	5.5
CSI_XREF:ENTITY_XREF †	Entity used by programs inquiry	5.5
CSI_XREF:LIST_ELEMENTS †	List element names	4.5
CSI_XREF:LIST_ENTITIES †	List entities within MANTIS user	5.0
CSI_XREF:MENU †	XREF main menu	3.9

*   Recommended for inclusion.
** The program CASE:CASE_FILE_MAINT cannot be loaded into the Shared Pool. Executing this program from the Shared Pool causes a PSM error message. Refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004, for descriptions of error messages.
†   Development environment.
‡   Both development and production environments.

> The following table lists Shared Pool recommendations for the Software Selection Facility (ACCESS).
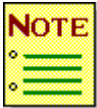
NOTE

> The sizes contained in the following table have been rounded up to the next .5K.

Program Name	Description	Size (K)
CSI-DBA:CSFC0300 *	Interactive services MAIN	3.5
CSI-DBA:CSFS0000_SIGN_ON_A **	Interactive services sign-on	1.5
CSI-DBA:CSFS0000_TERMINATE_A **	Interactive services terminate	1.0
CSI-DBA:CSFS0110 †	Main entry program for TIS	3.0
CSI-DBA:CSFS0210 **	Access main menu processing	15.5
CSI-DBA:CSFS0350 ‡	Skip screen processing	1.5

*   If interactive services is used.
** If provided transaction IDs used.
†   If transaction TISX is used.
‡   If transaction TISY is used.

Shared Pool maintenance using a background task

The Cincom-supplied assembler program, CSOXISPB, starts MANTIS as a background task and runs the CONTROL:FACILITY_CALLER program. The CONTROL:FACILITY_CALLER program can perform maintenance tasks on the Shared Pool.

The CSOXISPB program has been assembled and has been linked into the OS/390 CICS link libraries and the VSE/ESA CICS search sublibrary.

Loading the Shared Pool requires the following:

♦ **If you have not changed the MASTER user password from the original password supplied by Cincom:** Use the supplied executable program to load the Shared Pool, through one of the following:

- DFHPLT (stage 2)

- Sequential terminal input in the CICS startup JCL

♦ **If you have changed the MASTER password at your installation:** Perform the following:

1. Modify the assembler source to specify the Master User's password.

2. Translate the new version.

3. Assemble the new version.

4. Link the new version into the appropriate CICS library/sublibrary.

5. Use the new version of the executable program to load the Shared Pool, either through DFHPLT (stage 2) or through sequential terminal input in the CICS startup JCL.

Since the CSOXISPB program performs a start of MANTIS which runs the load program in the background, you must have a CSOL file defined and available for WRITE capability from CICS. MANTIS always writes out at least two messages when executing a background task, so this CSOL file should be checked for any error messages and should be periodically redefined.

In addition to loading the Shared Pool, the CONTROL:FACILITY_CALLER program can perform various maintenance tasks on it. Please see preceding sections for detailed explanations of the action commands for Shared Pool maintenance. The generalized syntax for the CONTROL:FACILITY_CALLER program is:

```
SHRP(function|,type,|entity).
```

Allowable functions are:

♦   LOAD

♦   PURGE

♦   NEWCOPY

♦   SHRPITEM

Allowable types are:

♦   *

♦   SHRP

♦   PRGM

♦   DLIP

♦   DLIU

SHRP and * are synonymous, and are the default types for LOAD and PURGE, which operate on the entire pool. LOAD, NEWCOPY, and SHRPITEM can operate on the types PRGM, DLIP, or DLIU. The default type for NEWCOPY is PRGM.

The full entity name should include both the name of the library and the name of the entity, separated by a colon. The named entity is assumed to exist. The program does not perform any error handling, so if invalid information (including an invalid length specification) is passed to the program, the results will be unpredictable.

NOTE

When making changes for other kinds of background MANTIS task invocation, refer to the source version of CSOXISPB as a model.

6

Transfer Facility extended functionality

This chapter provides information on the extended functionality of the Transfer Facility that is available to the Master User only. For additional information on using the Transfer Facility, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

Transfer Facility considerations

The Transfer Facility is a tool for sharing MANTIS entities (screens, programs, etc.) among users on the same or different systems. The Transfer Facility uses a special Transfer File. The default name for this file is CSOT, but you can change the name by using the Customization Macro described in "MANTIS customization and maintenance" on page 251. This Transfer File holds data temporarily, and is divided into independent areas, called bins, which may belong to a single user or may be shared by several users. You can copy entities from user to user, from system to system, or from site to site. In addition to copying MANTIS entities to and from bins in the Transfer File, programs exist to delete and list entities in the bins. Selective recovery from a REPRO tape is also available.

NOTE

When a bound program is transferred from one cluster to another, interfaces, files, and screens are not verified. Problems can occur when transferring a bound program without also transferring the bound entities to a cluster. For example, if a bound program containing a bound FILE statement is transferred from test to production, and the file is not defined on the production system, the error is not detected until the transferred program is used. If the program is transferred in an unbound state and then bound on the production system, the error would be detected during the binding process before the program is put into use.

Before using the Transfer Facility, consider the following:

♦ HPO-bound programs are always transferred with the HPO EEPR data unchanged regardless of whether WITH HISTORY is set to Y or N.

♦ SQL-bound programs are always transferred with the SQL EEPR data unchanged, regardless of whether WITH HISTORY is set to Y or N. If an SQL-bound program is transferred to a target cluster that does not support SQL, the status of the program is changed to NONEXEC. You can change the status of the transferred program back to ACTIVE by updating the program profile.

♦ This release of MANTIS allows up to 1,296 bins on the Transfer Cluster.

♦ A FILE NOT FOUND message can be received when selecting PF24 to copy from bin to library if the Transfer Cluster was initialized under MANTIS release 4.0. This is caused by an attempt to transfer DBCS prompters (not available in release 4.0). You can ignore the message because all useful entities are correctly transferred. If desired, you can eliminate the message by (1) reinitializing a new Transfer Cluster using 5.5 initialization records and (2) REPRO REPLACE the 4.0 backup from archive into the new Transfer Cluster.

♦ Use the following Access Method Services control statement to reinitialize the TRANSFER cluster from the SETPRAY cluster after the TRANSFER cluster has been deleted and defined with Access Method Services:

```
REPRO INFILE(SETPRAY) OUTFILE(CSOT) FROMKEY(X'01')-
  TOKEY(X'01')
```

where SETPRAY identifies the SETPRAY cluster data set and CSOT identifies the TRANSFER cluster data set. Keep in mind that this procedure of deleting, defining, and REPROing with the previous control statement completely refreshes your TRANSFER cluster back to the state it was in on your installation tape (e.g., none of the bins you have defined will exist).

The Master User's Transfer Facility menu displays in the following screen illustration:

```
                  Transfer Facility                    YYYY/MM/DD
                                                          HH:MM:SS
   Transfer file name :              :
                 Bin :                    :
             Password :                   :

      Create a new bin .........................................   1
      Copy from library to bin .................................   2
      Copy from bin to library .................................   3
      Delete from bin ..........................................   4
      List contents of bin .....................................   5
      Change password for bin ..................................   6
      Directory of bins ........................................   7
      Turn print ON/OFF ........................................   8
      Help .....................................................   9
      Lock/Unlock Transfer facility ............................  10
      Delete entire bin ........................................  12
      Delete all bins in Transfer File .........................  13
      Exit facility ........................................  CANCEL

                       :      :
```

You can perform certain functions from this menu that do not appear on the Transfer Facility menu available to end users. These functions are:

♦   "Lock/unlock Transfer Facility" on page 382.

♦   "Delete all bins" on page 382.

♦   "Additional transfer facilities" on page 383.

♦   "Transfer entities from user to user" on page 384.

♦   "Transfer entities from system to system" on page 385.

♦   "Transfer entities from site to site" on page 386.

♦   "Recover selective entities from a REPRO tape" on page 387.

♦   "Single-Level Transfer Facility" on page 388.

♦   "Transfer Conversion Upgrade Program (TCUP)" on page 413.

Lock/unlock Transfer Facility

Use the Lock/Unlock option to lock the Transfer Facility while you are doing backups or restores of the Transfer File, or while it is open to another system so other (non-Master) MANTIS users cannot access the facility. The following screen displays:

```
                       Transfer Facility Control            YYYY/MM/DD
                                                            HH:MM:SS

         Status : ACTIVE    :
Active Users : 1    :
Lock Message : TRA022I:Transfer not yet available to you, see Master User :
```

Any status other than ACTIVE locks out other users. You can add an error or information message on this screen to indicate that the Transfer Facility is locked.

Delete all bins

Use the Delete option to delete all bins in the Transfer Facility. A prompt displays to confirm your intention to perform the deletion. To delete all bins, the Transfer Facility must be locked (see "Lock/unlock Transfer Facility" above).

Additional transfer facilities

Additional facilities are available when you select the options to Transfer Out and In and Delete from Bin. As a sample, the following figure illustrates the Master User's Copy from Library to Bin screen (Transfer Out):

```
                     Copy From Library To Bin                 YYYY/MM/DD
 Bin: BIN1                                                    HH:MM:SS

Programs ................... 1      DL/I Call Profiles ...........  9
Screens .................... 2      DL/1 segment layouts .........  10
File Profiles .............. 3      DL/I unequal call profs ......  11
Prompters .................. 4      Turn print ON/OFF ............  12
Interfaces ................. 5      Help .........................  13
Scenarios .................. 6      User File Data (Kanji Keys)...  14 (15)
TOTAL File Views ........... 7      All ..........................  24
External File Views ........ 8      Terminate this facility .... CANCEL

              User : MASTER                      :
      Starting Name :                            :
        Ending Name :                            :
     (A)dd/(R)eplace : A :          With data : N :
           New Name :                            :

                            :      :
```

Only the Master User can specify the transfer (in and out) of DL/I Segment Layouts and DL/I Unqualified Call Profiles. These two options also display on the Master User's Delete from Bin screen. For more details on MANTIS and DL/I, refer to Appendix C in *MANTIS DL/I Programming, OS/390, VSE/ESA*, P39-5008.

The USER field allows you to specify the particular user for the entity you want to transfer. You can also transfer file data when you transfer a file. These fields do not appear on the Delete from Bin screen.

Transfer entities from user to user

The following figure illustrates how to transfer an entity from one user to another on a single MANTIS system:

Single MANTIS System
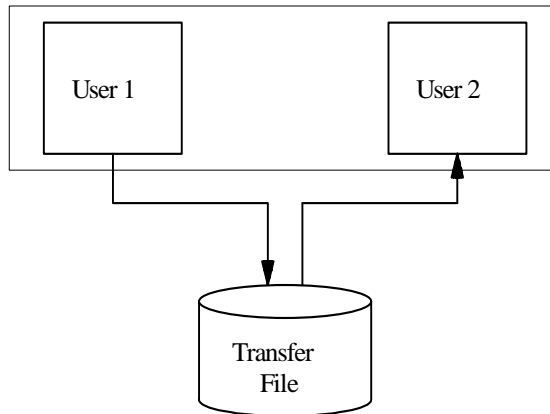
♦ The Master User can copy entities from any user to a specific bin in the Transfer File.

♦ The Master User then copies the entities from the bin to the target library.

♦ The Master User can delete the entities from the bin after copying it.

This function permits controlled sharing of MANTIS entities not otherwise available (e.g., file descriptions and prompters).

Transfer entities from system to system

The following figure illustrates transferring entities from one system to another:
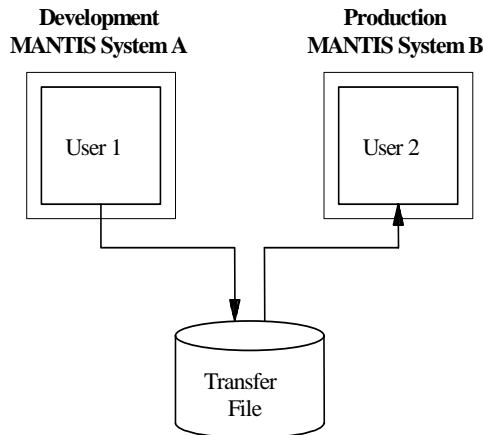
Two steps are necessary to transfer entities from one system to another:

1. Copy the entities from the source library to a bin in the Transfer File and then close the Transfer File to System A.

2. Next, open the Transfer File to System B and copy the entities from the bin to the target library.

To ensure data integrity, the Transfer File should remain closed to one system while the second system is working with it. CICS users should use the CICS CEMT transaction to open and close the Transfer File.

Lock the Transfer Facility before closing the Transfer File for a system. Unlock the Transfer Facility only after you have reopened the Transfer File.

Transfer entities from site to site

The following figure shows transferring from one site to another:

MANTIS System A   **MANTIS System B**
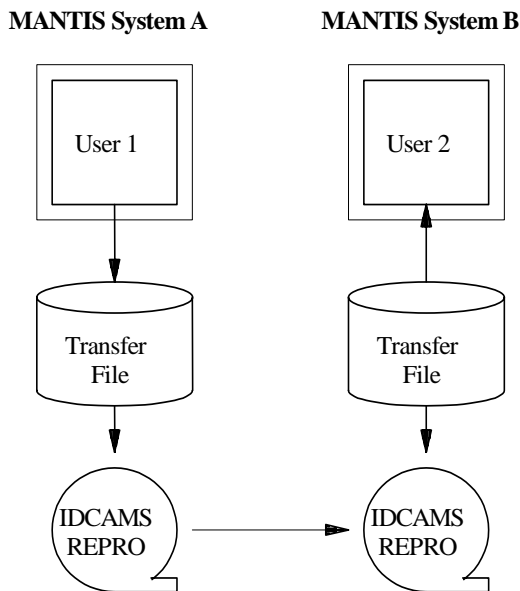
Four steps are necessary to transfer entities from one site to another:

1. Copy the entities into the specified bin with the Transfer Facility. The Transfer File is then closed.

2. Create a REPRO tape of the Transfer File using IDCAMS.

3. This REPRO tape is physically taken to the other site and IDCAMS is used to load the REPRO tape of the Transfer File onto the second system.

4. Copy the entities from the bin with the Transfer Facility.

Recover selective entities from a REPRO tape

You can selectively recover entities from a REPRO backup tape of your MANTIS cluster. The following figure illustrates this process:
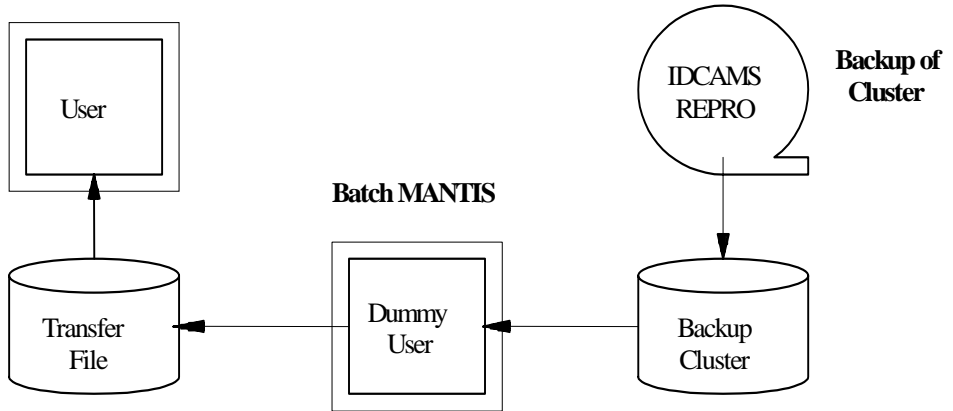
Use IDCAMS to load the REPRO backup of the MANTIS cluster into a temporary file. Using a second MANTIS (such as Batch MANTIS), run the Transfer Facility to copy the specified entities from the temporary file to the Transfer File. Open the Transfer File to the online system. Use the Transfer Facility again to copy the entities into the online cluster.

Single-Level Transfer Facility

You can perform certain transfer functions online or in batch mode using the Single-Level Transfer Facility.

Running Single-Level Transfer Facility online

To run the Single-Level Transfer Facility online, select the Run a Program by Name option from the Facility Selection menu and run: CONTROL:TRANSFER_ONE_LVL. The following screen displays:

```
                    M  A  N  T  I  S             YYYY/MM/DD
                                                  HH:MM:SS
                 Single Level Transfer Facility

User  ..................... MASTER
Bin  ......................
Bin password  .............
Mode  .....................
Type  .....................
Name  .....................
Add / Replace  ............ A
With data  ................ N
New name  .................
New password  .............
With history  ............. Y
```

USER ID

Description   *Required*. Indicates your user ID. The Master User can also specify any other user ID on the system.

BIN

Description   *Required*. Indicates the name of the bin.

BIN PASSWORD

Description *Optional.* Indicates the associated bin password if one was assigned to the bin.

MODE

Description *Required.* Indicates the transfer function.

Options CREATE BIN   Create a new bin.

DELETE BIN   Delete an existing bin.

IN   Copy from bin to library.

OUT   Copy from library to bin.

DELETE   Delete from bin.

Consideration No abbreviations are allowed.

TYPE

Description *Optional.* Indicates the type of entity if moving entities.

Options PROGRAMS

SCREENS

FILES

PROMPTERS

INTERFACES

SCENARIOS

TOTAL VIEWS

EXTERNAL VIEWS

DLIP (DL/I Call Profiles)

DLIS (DL/I Segment Layouts)

DLIU (DL/I Unqualified Call Profiles)

ALL (all entities previously listed)

Consideration User File Data is not a valid entity type.

NAME

Description	*Optional.* Indicates the name of a specific entity (e.g., a program name) if you are moving entities.
Format	1–30 alphanumeric characters.
Consideration	You must specify a real entity name unless moving all entities. Ranges are not valid. Generic patterns using the wildcards * and ? are valid. Directory selection is not provided.

ADD/REPLACE

Description	*Optional.* Indicates whether MANTIS should add or replace the named entity.
Default	A
Options	A Only copies those entities that do not already exist in the bin or library.
	R Copies all entities, including those that already exist in the bin or library.

WITH DATA

Description	*Optional.* Indicates whether you want the entity transferred with or without data.
Default	N
Options	Y Transfers the entity with data.
	N Transfers the entity without data.
Consideration	This option is valid only for files.

NEW NAME

Description	*Optional.* Indicates a new entity name for any entity names you want to change.

NEW PASSWORD

Description   *Optional.* Indicates a new entity password for any entity passwords you want to change.

WITH HISTORY

Description   *Optional.* Specifies whether you want to move a program's profile history along with the program you are transferring.

Default   Y

Options   Y   Transfers the program with EEPR data.

N   Transfers the program without EEPR data.

Considerations

♦   Profile history information is stored as an external VSAM file record called the Extended Entity Profile Record (EEPR). The EEPR is required if you transfer a program with or without history. It contains: program information (description, password, status, date and time of last change, terminal ID, user ID, and version number), CEF information (Check, Compose and Decompose), and Bind information (Check, Bind, Unbind) on SQL and HPO-bound programs. Information about CREF data is not included on the EEPR because CREF data applies only to the source cluster and is never transferred.

♦   If CEF is installed on the source cluster, all EEPR data is transferred along with the program into the transfer bin. From the Copy From Bin to Library screen, you can choose to move all EEPR data unchanged by accepting the default WITH HISTORY=Y. If you set WITH HISTORY=N, an EEPR record is created for the program and the version number is reset to 1.

♦   If the Component Engineering Facility (CEF) is not installed on the source cluster, a new EEPR record is created on the target cluster for all program profile data. The EEPR data is created the same way whether WITH HISTORY is set to Y or N at the Copy From Bin to Library screen.

♦   If you are issuing a REPLACE, all EEPR data on the target cluster is replaced.

♦ CREF data is never transferred because it applies only to the source cluster. It is advisable to repeat the CREF function after each program transfer.

♦ HPO-bound programs are always transferred with the HPO EEPR data unchanged regardless of whether WITH HISTORY is set to Y or N.

♦ SQL-bound programs are always transferred with the SQL EEPR data unchanged regardless of whether WITH HISTORY is set to Y or N. If an SQL-bound program is transferred to a target cluster that does not support SQL, the status of the program is changed to NONEXEC. You can change the status of the transferred program back to ACTIVE by updating the program profile.

If the transfer was successful, MANTIS returns a confirmation message. If the transfer was unsuccessful, MANTIS returns an error message. (For a description of Transfer Facility error messages, refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004.)

Running Single-Level Transfer Facility in batch

In a batch environment, use the Batch MANTIS facility to sign on to
MANTIS and to run the program CONTROL:TRANSFER_ONE_LVL.
(For more information on Batch MANTIS, refer to *MANTIS Facilities,
OS/390, VSE/ESA*, P39-5001.) To create a batch input statement, use
the following parameters.
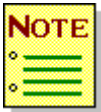
> **NOTE**
>
> The Batch Dialog Facility (BDF) now supports a parameter-driven
> Transfer function. Refer to the documentation for BDF in *MANTIS
> Facilities, OS/390, VSE/ESA*, P39-5001 for more details.

USER ID

Description   *Required.* Specifies your user ID.

Consideration If you are the Master User, you can also specify any other user ID on
your system.

BIN

Description   *Required.* Indicates a valid bin name.

BIN PASSWORD

Description   *Optional.* Indicates the associated bin password is a password was
assigned to the bin.

MODE

Description   *Required.* Specify the transfer function.

Options   CREATE BIN   Create a new bin.

DELETE BIN   Delete an existing bin.

IN   Copy from bin to library.

OUT   Copy from library to bin.

DELETE   Delete from bin.

Consideration No abbreviations are allowed.

TYPE

      Description   *Optional.* Specifies the type of entity if moving an entity.

      Options   PROGRAMS

                      SCREENS

                      FILES

                      PROMPTERS

                      INTERFACES

                      SCENARIOS

                      TOTAL VIEWS

                      EXTERNAL VIEWS

                      DLIP (DL/I Call Profiles)

                      DLIS (DL/I Segment Layouts)

                      DLIU (DL/I Unqualified Call Profiles)

                      ALL (all entities previously listed)

    Consideration User File Data is not a valid entity type.

NAME

Description	*Optional.* Indicates the name of a specific entity (e.g., a program name) if moving an entity.
Format	1–30 alphanumeric characters.

ADD/REPLACE

Description	*Required.* Indicates whether MANTIS should add or replace the named entity.
Default	A
Options	A Copies those entities that do not already exist in the bin or library.
	R Copies all entities, including those that already exist in the bin or library.

WITH DATA

Description	*Optional.* Specifies whether you want the entity transferred with or without data.
Default	N
Options	Y Transfers the entity with data.
	N Transfers the entity without data.
Consideration	This parameter is valid only for files.

NEW NAME

Description	*Optional.* Indicates a new entity name for any entity names you want to change.

NEW PASSWORD

Description	*Optional.* Indicates a new entity password for any entity passwords you want to change.

WITH HISTORY

Description   *Optional.* Specifies whether you want the entity transferred with or without history information.

Default   Y

Options   Y   Transfers the entity with EEPR data.

 N   Transfers the entity without EEPR data.

General considerations

♦   You must enter the parameters sequentially. For example, if you want to provide a new entity name, you must also provide values for each parameter leading up to the NEW NAME parameter.

♦   You can stack several transfers within one batch run. Include an additional statement for each transfer function you want to perform.

♦   If the transfer was successful, MANTIS also returns a confirmation message. If the transfer was unsuccessful, MANTIS returns an error message. (For a description of Transfer Facility error messages, refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004.)

Example   The following is a sample batch input stream:

```
.
.                                              Sign on to Batch MANTIS
.
<ECHO=ON>;1                                    Select Run a Program by Name option
CONTROL:TRANSFER_ONE_LVL                       Enter program name
EXAMPLES;SAMPLE;CASINO;CREATE BIN              1 (below)
EXAMPLES;SAMPLE;CASINO;IN;ALL                  2 (below)
EXAMPLES;SALES;DOLLARS;OUT;PROGRAMS;PRICE_RATE;R  3 (below)
EXAMPLES;TEST;CASINO;DELETE BIN                4 (below)
<PA2>                                          Exit from the Transfer Facility
<PA2>                                          Exit from MANTIS
```

1. Select user EXAMPLES and create a new bin named SAMPLE (password is CASINO).

2. Select user EXAMPLES and transfer all entities in the bin named SAMPLE into your library.

3. Select user EXAMPLES and transfer a program named PRICE_RATE into a bin called SALES.

4. Select user EXAMPLES and delete the bin named TEST (password is CASINO).

Transferring bound programs

If you have the High Performance Option (HPO), you may choose to bind a program in the test environment. Once the program is ready to move to production, it is generally recommended that you transfer the program as unbound, then bind it in production. Or, if you transfer the program as bound, rebind the program once you move it to production. Various problems can occur if rebinding is not done. Problems can include:

♦   A CFP error can occur if the program contains PROGRAM statements. This can be caused because the key of the program to be externally done is bound with the program and the user code may not be the correct user code on the new system.
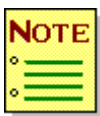
> **NOTE**
>
> **Warning:** It is the user's responsibility to either avoid binding PROGRAM statements or to rebind after transfer.

♦   There is no verification on interfaces, files, or screens. If a certain entity was not intended to be valid on the transferred to cluster, various problems can occur. For example, a bound program containing a bound FILE statement is transferred from test to production. If the file is not defined on the production system, the error is not detected until the transferred program is run. If the program was transferred in an unbound state and then bound on the production system, the file not found error is detected during the bind, before the program is put into use.

♦   Consistency check does not report inconsistencies properly unless the bound version of the program is checked on the system where it was bound. The date/time stamps are not correct.

♦   Programs containing bound VIEW and TOTAL entities may not be consistent with the database's elements. The same thing is true to some degree if an external VSAM, internal MANTIS file view, or DL/I Interface Layout has changed in test but not in production. This could lead to incorrect results, data errors, or database corruption.

♦ It is possible that the only version of a bound entity is within a bound program and there is no way to get it back out. When the program is unbound all evidence of that entity is lost. The program fails if rebinding is attempted. For example, a screen is bound into a program in test, the program is transferred to production and runs properly. The screen is deleted in test (during a general clean-up or accidentally). If the program in production is unbound, all information about the screen was lost.

♦ Bound programs that access MANTIS internal files also store the file's user code. This could cause additional problems.

General recommendations

♦ If you do not want to do BIND and checkout on the production system, you can use a staging (or quality assurance, or system test) system that is a clone of the production system. The program package (program plus any changed bound entities such as screens and files) are transferred to the staging system and bound there with all the same userid and library contents as on production. The user is then assured of having all required entities on the production system (so the previous situations do not happen). The bound program can then be transferred into production at the scheduled time.

♦ You can also assign user codes and file codes, thus keeping them the same on each system. See "MASTER User's extended functionality" on page 45 for more information on assigning user codes.

Transfer entities with Batch MANTIS

This section contains considerations when transferring entities with Batch MANTIS. Three files are required: SETPRAY, CSOT, and EEPR. A fourth file, ELOG, is required if the user has turned on logging.

The Setpray file must be set to read-only (RO) if you are accessing the online cluster.

The transfer file (CSOT) must be opened in update mode for the Transfer Facility to write the entities. To be in update mode, the transfer file must be a different file than what is accessed by online MANTIS, or closed/read-only to the online system.

The ELOG file is not necessary and is not accessed if logging is turned off for the specific user. If logging is turned on for the user, this file must be in update mode and therefore, a different one from the online system ELOG file.

The EEPR file must be opened in update mode because MANTIS updates the TRANSFER OUT field in the EEPR. If the TRANSFER OUT date/time stamp on the program profile record is not critical, you can copy the online EEPR (or part of it, by key is easy because it is all text) to another EEPR file, which is accessed in Batch MANTIS for update purposes. However, this means that you would have two different versions of the same information because the online EEPR would not indicate the TRANSFER OUT.

The other option is to use the Transfer Facility while the online MANTIS system is down, allowing you to open all the files in update mode.

The following provides sample MVS/JCL to access the minimum external
files used to support the MANTIS Program Design Facility and the
Component Engineering Facility in Batch MANTIS:

```
//JOBNAME  JOB   . . .
//STEP01   EXEC PGM=MANTISB,REGION=2200K
//STEPLIB  DD   DISP=SHR,DSN=MANTIS.LINKLIB
//SETPRAY  DD   DISP=SHR,DSN=MANTIS.SETPRAY
//EEPR     DD   DISP=SHR,DSN=MANTIS.EEPR.CLUSTER
//ELOG     DD   DISP=SHR,DSN=MANTIS.ELOG.CLUSTER    <== Needed only if
//CSOT     DD   DISP=SHR,DSN=MANTIS.TRANSFER            user has logging
//SYSPRINT DD   SYSOUT=*                               turned on.
//TERMINAL DD   SYSOUT=*,DCB=BLKSIZE=133
//SYSUDUMP DD   SYSOUT=*
//PRINTER  DD   SYSOUT=*,DCB=BLKSIZE=133
//KEYBOARD DD   *
 .
 .
(simulated keyboard input here)
 .
```

Transfer Exchange Utility

MANTIS provides a batch utility, CSOPTFEX, that copies bins from one transfer file to another. Both input and output transfer files can be DL/I or VSAM, and they must be valid transfer files that contain at least initialization records. You can select one or more bins for copying, copy all bins from the input file, or add bins to the output file or replace them if they already exist in the output file.

For information about the messages you may receive when using CSOPTFEX, refer to *MANTIS Messages and Codes, OS/390, VSE/ESA*, P39-5004.

The following control statements determine which function CSOPTFEX will perform.

File selection

FROM=*x*,TO=*y*,REPLACE

x

Description	*Required.* Specifies the type of input transfer file (also database name if DL/I).
Format	Valid text expression to indicate VSAM or DL/I.
Options	VSAM to specify a VSAM file (uses dd name CSOTFROM)
	DLI(*dbd-name*) to specify a DL/I database.

y

Description	*Required.* Specifies the output transfer file.
Format	Valid text expression to indicate VSAM or DL/I.
Options	VSAM to specify a VSAM file (uses dd name CSOTTO)
	DLI(*dbd-name*) to specify a DL/I database

REPLACE

    Description   *Optional.* Replaces the specified bins if they already exist or adds the bins to the output file if they are new.

    Consideration If not specified otherwise, MANTIS adds the bins to the output file. If a selected bin already exists, MANTIS takes no action but issues the message REJECTED, BIN ALREADY EXISTS IN OUTPUT FILE.

    Example

```
FROM=VSAM,TO=DLI(TRANSF),REPLACE
/*
```

Bin selection

BIN statements specify the bins to copy from the input file to the output file. You can use multiple bin statements, as in the following examples.

BIN=*bin-name*

bin-name

Description   *Required.* Specifies the bin to copy from the input file to the output file.

Consideration If you do not include a BIN statement, MANTIS copies all bins in the input file to the output file.

Examples

♦ In this example, bins TRANSBIN1 and TRANSBIN2 are copied from a VSAM file to a DL/I database with the DBD name TRANSF. If the named bins already exist on the DL/I transfer file, MANTIS replaces them.

```
FROM=VSAM,TO=DLI(TRANSF),REPLACE
BIN=TRANSBIN1
BIN=TRANSBIN2
/*
```

♦ In this example, MANTIS copies all bins in the DL/I transfer file with the DBD name TFOLD to the DL/I transfer file TFNEW, if they do not already exist in that file. Bins that exist on TFNEW remain unchanged.

```
FROM=DLI(TFOLD),TO=DLI(TFNEW)
/*
```

♦ You must supply one PCB (Program Communication Block) for the input and/or output database. The PCBs for the Transfer file can be located anywhere in the PSB.

Use the following JCL for a Batch Message Processing (BMP) region:

```
//TFEX    EXEC PGM=DFSRRC00,
//             PARM='BMP,CSOPTFEX,TFULPSB'
//STEPLIB  DD  DISP=SHR,DSN=IMSVS.RESLIB
//         DD  DISP=SHR,DSN=MANTIS.LINKLIB
//DFSRESLB DD  DISP=SHR,DSN=IMSVS.RESLIB
//SYSUDUMP DD  SYSOUT=*
//CSOTFROM DD  DISP=SHR,DSN=VSAM.TRANSFER.FILE
//CSOTTO   DD  DISP=SHR,DSN=VSAM.TRANSFER.FILE2
//CTLOUT   DD  SYSOUT=*
//SYSIN    DD  *
Insert control statements here
/*
```

Use the following JCL for a DL/I region:

```
//TFEX EXEC PGM=DFSRRC00,PARM='DLI,CSOPTFEX,TFULPSB'
//STEPLIB  DD DISP=SHR,DSN=IMSVS.RESLIB
//         DD DISP=SHR,DSN=MANTIS.LINKLIB
//DFSRESLB DD DISP=SHR,DSN=IMSVS.RESLIB
//IMS      DD DISP=SHR,DSN=IMSVS.DBDLIB
//         DD DISP=SHR,DSN=IMSVS.PSBLIB
//DFSVSAMP DD DISP=SHR,DSN=MANTIS.BUFFERPOOL.DEFINITION
//IEFRDER  DD DUMMY
//SYSDUMP  DD SYSOUT=*
//CSOTFROM DD DISP=SHR,DSN=VSAM.TRANSFER.FILE
//TRANSFER DD DISP=SHR,DSN=MANTIS.TRANSFER.DATA
//TFERINDX DD DISP=SHR,DSN=MANTIS.TRANSFER.INDEX
//CSOTTO   DD DISP=SHR,DSN=VSAM.TRANSFER.FILE2
//CTLOUT   DD SYSOUT=*
//SYSIN    DD *
Insert control statements here
/*
```

Transfer interface

The CONTROL:TRANSFER_ONE_LVL program allows you transfer one entity at a time. This program is a simple driver program which displays the TRANSFER_ONE_LVL screen and then invokes CONTROL:TRANSFER_INTERFACE to actually do the work.

You could also build your own front-end program to provide more flexibility when trying to automate transfer functions. This program could, for example, read a MANTIS file containing entity names, types, and desired functions. The program would invoke CONTROL:TRANSFER_INTERFACE via external DO for each entity. A single run of this program could create a bin, transfer out programs, transfer in programs, delete a screen from a bin, and so on.
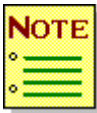
The Batch Dialog Facility (BDF) now supports a parameter-driven Transfer function. Refer to the documentation for BDF in *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001 for more details.

The parameter list which has to be passed to CONTROL:TRANSFER_INTERFACE is defined as follows (text unless specified otherwise):

USERID

Data Type   16-byte text

Description   User to transfer entity to/from. Must be the current signed on user unless you are signed on to MASTER, then it can be any other user.

BIN

Data Type   16-byte text

Description   Transfer BIN that you are transferring from/to or creating/deleting.

BINPASS

Data Type   16-byte text

Description   The transfer BIN password if one was specified at create time, or you wish to have a password on the bin you are currently creating.

MODE

Data Type   10-byte text

Description   What type of transfer function is being executed.

Options   OUT

IN

DELETE

CREATE BIN

DELETE BIN

TYPE

Data Type	12-byte text
Description	The type of entity being transferred.
Options	PROGRAMS
	SCREENS
	FILES
	PROMPTERS
	INTERFACES
	SCENARIOS
	TOTAL VIEWS
	EXTERNAL VIEWS
	DLIP (DL/I Call Profiles)
	DLIS (DL/I Segment Layouts)
	DLIU (DL/I Unqualified Call Profiles)
	ALL (all entities)

NAME

Data Type	30-byte text
Description	The entity's name being transferred. Note the transfer restriction of maximum allowable 30 characters.

NEW_NAME

Data Type	30-byte text
Description	The entity's new name if applicable Note the transfer restriction of maximum allowable 30 characters.

NEW_PW

Data Type	16-byte text
Description	The new password that the entity will be stored with if different from its current password.

AR_CODE

Data Type	1-byte text
Description	Whether you want to add a new entity or replace an existing one.
Options	A Add
	R Replace

WITH_DATA

Data Type	1-byte text
Description	When transferring a MANTIS internal file, do you want all of the data records to be transferred with the file profile.
Options:	Y Transfer data records with the file profile.
	N Transfer only the file profile.

HISTORY

Data Type	1-byte text
Description	When transferring a MANTIS program, do you want to transfer the program's Extended Entity Profile Record (EEPR).
Options	Y Transfer the EEPR with the program.
	N Do not transfer the EEPR with the program.

MESSAGE

Data Type	30-byte text
Description	Returns a message on the success or failure of the operation.
Examples	TRA053I: Bin created
	TRA032I: Added
	TRA001E: Bin already exists
	TRA002E: Cannot add

STAT

Data Type	1-byte text
Description	1-character field which indicates success or failure of the operation you are trying to perform.
Options	Y The operation was successfully done.
	N The operation was unsuccessful.
Considerations	Typically you would probably check this field first and if the status was N move the message into some error field.

BINCODE

Data Type   Small

Description   Used internally by MANTIS. You must supply it as part of the parameter list. TRANSFER_INTERFACE will put a value in this field, but the information has no meaning for you.

BINID

Data Type   2-byte text

Description   Used internally by MANTIS. You must supply it as part of the parameter list. TRANSFER_INTERFACE will put a value in this field, but the information has no meaning for you.

> **NOTE**
>
> No sophisticated syntax checking is done in TRANSFER_INTERFACE. It is the users responsibility to ensure that the information passed is correct as documented.

The following test program illustrates the use of the
CONTROL:TRANSFER_INTERFACE:

```
10   ENTRY TEST_TRANSFER
20   .PROGRAM TRANSFER_INTERFACE("CONTROL:TRANSFER_INTERFACE","PTERODACTYL")
30   .TEXT USERID(16),BIN(16),BINPASS(16),MODE(10),TYPE(15),NAME(32),
40   .'AR_CODE(1),WITH_DATA(1),NEWNAME(31),NEW_PW(31),HISTORY(1),
50   .'MESSAGE(78),BINID(2),STAT(1)
60   .SMALL BINCODE
70   .| TEST 1
80   .USERID="EXAMPLES"
90   .BIN="TEST_TRANSFER"
100  .BINPASS=""
110  .MODE="CREATE BIN"
120  .DO TRANSFER_INTERFACE(USERID,BIN,BINPASS,MODE,TYPE,NAME,NEWNAME,
130  .'NEW_PW,AR_CODE,WITH_DATA,HISTORY,MESSAGE,STAT,BINCODE,BINID)
140  .SHOW MESSAGE
150  .SHOW STAT:WAIT
160  .| TEST 2
170  .MODE="OUT"
180  .TYPE="PROGRAMS"
190  .NAME="AMOUNT_IN_WORD"
200  .NEWNAME="TEST_TRANSFER"
210  .AR_CODE="A"
220  .WITH_DATA="Y"
230  .HISTORY="Y"
240  .DO TRANSFER_INTERFACE(USERID,BIN,BINPASS,MODE,TYPE,NAME,NEWNAME,
250  .'NEW_PW,AR_CODE,WITH_DATA,HISTORY,MESSAGE,STAT,BINCODE,BINID)
260  .SHOW MESSAGE
270  .SHOW STAT:WAIT
280  EXIT
```

NOTE

If the TRANSFER_INTERFACE pre/post security exits,
MASTER:TRANSFER_SECURITY_ EXIT, and
MASTER:TRANSFER_SECURITY_STAT exist, they will be called from
TRANSFER_INTERFACE. Refer to the chapter on User Exits for more
information.

Transfer Conversion Upgrade Program (TCUP)

The MANTIS TRANSFER cluster (CSOT) has been modified and improved for MANTIS Release 5501. After conversion, the Transfer Facility will continue to operate in the same manner as before. Refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001, for additional information on the Transfer Facility.

Improvements

For MANTIS Release 5501, Cincom has made the following improvements:

♦ Increased the number of bins from 1,296 to 5,000.

♦ Increased internal file codes available from 983 to approximately 30,000, allowing you to create more bins and transfer more MANTIS Internal files.

♦ Increased performance when adding new bins.

♦ Resolved earlier issues with certain bin code IDs.

NOTE	You are required to upgrade any pre-5501 Transfer Cluster to the 5501 version if you want to perform a transfer out from a 5501 Setpray. This is explained in following sections.

Conversion

A new utility, the Transfer Conversion Upgrade Program (TCUP), has been created for this conversion.

TCUP must be run using Batch MANTIS. TCUP reads your pre-5501 Transfer Cluster and performs an "in-place" conversion on that cluster.

NOTE
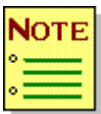
Back up your pre-5501 Transfer Cluster before running TCUP.

To run TCUP, use Batch MANTIS and Run-A-Program-By-Name "CONTROL:TCUP." If you attempt to run TCUP using online MANTIS, you will receive the following error message:

```
TRA063E:Transfer Conversion Utility Program (TCUP) must be run in
   batch.
```

Your Transfer Cluster must be closed to online processing and available to TCUP for updating. If your Transfer Cluster is not available to TCUP for updating, you will receive the following error message:

```
TRA062E:Cannot access the Transfer Cluster for update.
```

TCUP Parameters

TCUP requires one parameter: STATUS.

♦ **If STATUS=YES:** (Default value.) A report is displayed for each converted bin and for each converted entity.

♦ **If STATUS=NO:** No individual conversions are reported. You will receive only the following message:

```
TRA064I:Transfer Conversion Utility Program (TCUP)
   successfully completed
```

Running TCUP with Batch MANTIS

This example illustrates the Batch MANTIS input that is required for running TCUP.
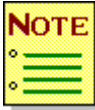
NOTE	Batch MANTIS must be able to open the MANTIS cluster for read access and the TRANSFER cluster for update. To see JCL examples for running Batch MANTIS, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.
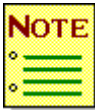
NOTE	This example shows the default key (<PA2>) for CANCEL. If another key is designated for CANCEL on your system, use that key.
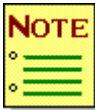
NOTE	Refer to the sample JCL MVJMANB for OS/390 or the sample MYJMANB for VSE/ESA.

This sample Batch MANTIS input executes TCUP and displays the status report:

```
1
CONTROL:TCUP
STATUS=YES
<PA2>
<PA2>
<PA2>
```

Status Report

The following is an example status report when TCUP is run on a pre-5501 TRANSFER cluster:

```
TRA066I:Bin 'ADA2_CLASS_DATA' successfully converted
TRA071I:  -- 4 MANTIS File(s) converted


TRA066I:Bin 'ADA2_MASTER' successfully converted
TRA071I:  -- 39 Program(s) converted
TRA071I:  -- 4 Screen(s) converted
TRA071I:  -- 1 External File View(s) converted
TRA071I:  -- 39 Program EEPR Record(s) converted


TRA066I:Bin 'IMS' successfully converted
TRA071I:  -- 1 MANTIS File(s) converted
TRA071I:  -- 2 External File View(s) converted


TRA066I:Bin 'REINSTALL' successfully converted
TRA071I:  -- 6 MANTIS File(s) converted
TRA071I:  -- 14 Program(s) converted
TRA071I:  -- 8 Screen(s) converted
TRA071I:  -- 4 Interface(s) converted
TRA071I:  -- 9 External File View(s) converted
TRA071I:  -- 14 Program EEPR Record(s) converted


TRA066I:Bin 'XREF' successfully converted
TRA071I:  -- 1 MANTIS File(s) converted
TRA071I:  -- 2 Program(s) converted
TRA071I:  -- 6 External File View(s) converted


TRA064I:Transfer Conversion Utility Program (TCUP) successfully
  completed
```

Compatibility between 5501 and pre-5501 TRANSFER clusters

Internal structural changes were made in the TRANSFER cluster for Release 5501 that results in limited compatibility with previous releases. Because upgrading to Release 5501 requires that you initially have Release 5401, that Release 5401 will be used as an example.

In the following figure, three MANTIS SETPRAY clusters and two TRANSFER clusters are displayed.

- ◆ MANTIS SETPRAY clusters:

    - MANTIS 5501 SETPRAY cluster in a TEST environment

    - MANTIS 5501 SETPRAY cluster in a PRODUCTION environment

    - MANTIS 5401 SETPRAY cluster in a PRODUCTION environment

- ◆ TRANSFER clusters:

    - 5401 TRANSFER (CSOT) cluster

    - 5501 TRANSFER (CSOT) cluster
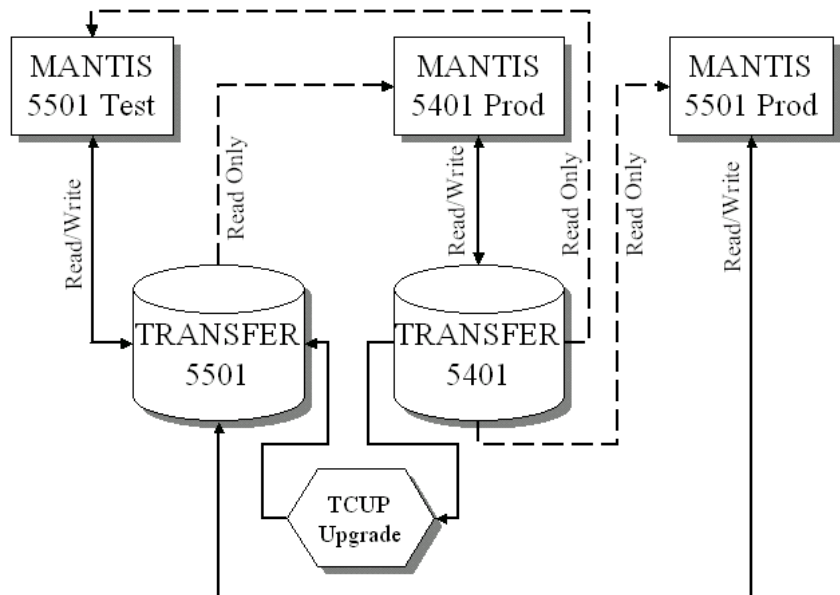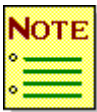
Using MANTIS 5401:

♦ You must not attempt to CREATE A BIN on a 5501 TRANSFER cluster. You will receive an error message.

♦ You must not attempt to TRANSFER OUT entities to a 5501 TRANSFER cluster. Transferring entities out could cause corruption of your TRANSFER cluster. You will receive an error message.

♦ You may only TRANSFER IN entities.

♦ If you are able to CREATE A BIN or to TRANSFER OUT entities, this means that you do not have patch 010413 applied to your 5401 cluster. In this case, the integrity of the TRANSFER cluster is lost.
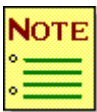
Using MANTIS 5501:

♦ You must not attempt to CREATE A BIN on a 5401 TRANSFER cluster. You will receive an error message.

♦ You must not attempt to TRANSFER OUT entities to a 5401 TRANSFER cluster. Transferring entities out could cause corruption of your TRANSFER cluster. You will receive an error message.

♦ You may only TRANSFER IN entities.

Permitted Functions

The following table shows the permitted and restricted TRANSFER functionality for compatibility between Release 5401 and Release 5501.

SETPRAY/TRANSFER	TRANSFER function	Permitted
5501 SETPRAY accessing 5501 TRANSFER	All transfer functions	Yes
5501 SETPRAY accessing 5401 TRANSFER	Create a new bin	No
	Copy from library to bin	No
	Copy from bin to library	Yes
	Delete from bin	No
	List contents of bin	Yes
	Change password for bin	No
	Directory of bins	Yes
	Turn print on/off	Yes
	Help	Yes
	Lock/Unlock Transfer facility*	Yes
	Delete entire bin	No
	Delete all bins in Transfer file*	No
5401 SETPRAY accessing 5401 TRANSFER	All Transfer Functions	Yes

* Only available to the Master User.

SETPRAY/TRANSFER	TRANSFER function	Permitted
5401 SETPRAY accessing 5501 TRANSFER	Create a new bin	No
	Copy from library to bin	No
	Copy from bin to library	Yes
	Delete from bin	No
	List contents of bin	Yes
	Change password for bin	No
	Directory of bins	Yes
	Turn print on/off	Yes
	Help	Yes
	Lock/Unlock transfer facility*	Yes
	Delete entire bin	No
	Delete all bins in transfer file*	No

* Only available to the Master User.

Required MCPU Patch for your MANTIS 5401 SETPRAY

If you plan on accessing a 5501 TRANSFER cluster, you must apply the MANTIS Code Patch 010413. This patch enables your MANTIS 5401 to determine that it is accessing a 5501 TRANSFER cluster. It will display the proper error messages if you attempt to execute a restricted function.
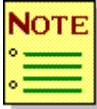
> **NOTE**
>
> You must apply MANTIS Code Patch 010413 if you wish to access a 5501 TRANSFER cluster from your 5401 MANTIS SETPRAY. If you do not apply this patch, and you execute a restricted function, you may corrupt your TRANSFER cluster.

5401 Required Patch

Fix 010413 is delivered on a sequential file that is automatically downloaded from the installation tape as part of the install process.

Use IDCAMS REPRO to repro this sequential file to your 5401 MANTIS SETPRAY cluster and use MCPU to apply the Fix.

Messages

If you are accessing a pre-5501 TRANSFER cluster with MANTIS 5501, and you attempt to execute one of the restricted functions listed in the preceding table, you will receive the following error message:

```
TRA068E:Function not permitted when accessing 5401 TRANSFER
  cluster
```

If you are accessing a 5501 TRANSFER cluster with MANTIS 5401 (with fix 010413 applied), and you attempt to execute one of the restricted functions listed in the preceding table, you will receive the following error message:

```
TRA074E:FUNCTION NOT PERMITTED WITH 5501 TRANSFER CLUSTER
  (FX010413)
```
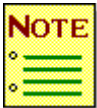
> **NOTE**
>
> As added by MCPU, the TRA074E message will be all uppercase. Also, it will contain the Fix number (FX010413) for reference.

Fix 010413 Patch Code

Here is the MCPU Patch Code for Fix 010413:

```
CONTROL:TRANSFER
VER 430
REP 430 SMALL TOK:TEXT TX(79)
VER 434
REP 434 TX="TRA074E:Function not permitted when accessing 5501"
VER 435
REP 435 TX=TX+" TRANSFER cluster (FX010413)"
VER 2330
REP 2330 DO TACCESS
VER 2410
REP 2410 IF TOK=FALSE
VER 2412
REP 2412 MESSAGE=TX
VER 2414
REP 2414 BREAK
VER 2416
REP 2416 END
VER 3030
REP 3030 IF TOK=FALSE
VER 3032
REP 3032 MESSAGE=TX
VER 3034
REP 3034 BREAK
VER 3036
REP 3036 END
VER 3410
REP 3410 IF TOK=FALSE
VER 3412
REP 3412 MESSAGE=TX
VER 3414
REP 3414 BREAK
VER 3416
REP 3416 END
```

```
VER 3650
REP 3650 IF TOK=FALSE
VER 3652
REP 3652 MESSAGE=TX
VER 3654
REP 3654 BREAK
VER 3656
REP 3656 END
VER 4790
REP 4790 IF TOK=FALSE
VER 4792
REP 4792 MESSAGE=TX
VER 4794
REP 4794 BREAK
VER 4796
REP 4796 END
VER 5570
REP 5570 IF TOK=FALSE
VER 5572
REP 5572 MESSAGE=TX
VER 5574
REP 5574 BREAK
VER 5576
REP 5576 END
VER 22000
REP 22000 ENTRY TACCESS
VER 22010
REP 22010 INTERNAL(30,1)
VER 22020
REP 22020 INTERNAL(16,SCAN,1,32757)
VER 22030
REP 22030 GET SCAN("BINMAP")EQUAL
VER 22040
REP 22040 TOK=(SCAN<>"FOUND")
VER 22050
REP 22050 INTERNAL(30,0)
VER 22060
REP 22060 EXIT
```

NOTE
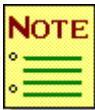
If accessing this patch using Cincom's Support Web, you must use the full 8 digits (20010413). Since MANTIS release 5401 only allows 6 digits for the patch ID, the "20" century is dropped.

7

AD/Advantage Administration

AD/Advantage overview

AD/Advantage is a standard interface which integrates and provides easy access to the components of AD/Advantage and MANTIS.

AD/Advantage functions

AD/Advantage combines a series of functions designed to standardize and increase the speed of developing AD/Advantage, MANTIS and 3GL applications. These functions include:

♦ **Standard application interface.** This applies to AD/Advantage system applications as well as your own applications and includes *menus* and *transactions.*

- Menus—Have the same general appearance throughout the system. Also, you can specify whether menus display in a pull-down or list format systemwide. See "Menus" on page 432 for more information on AD/Advantage menus.

- Transaction—Indicates the AD/Advantage standard processing technique. For every program that you write, you define a transaction for that program in AD/Advantage. All transactions have common elements. See "Transactions" on page 434 for more information on transactions.

♦ **Transaction logging.** AD/Advantage provides a mechanism which enables you to log some or all transactions in the system. The following basic reports are supplied with the system and can easily be extended to accomplish your needs:

- Report of audit trail information.

- Graph of the most used transactions on a certain day or over a range of days.

- Graph of hourly transaction usage.

You can also create your own transactions to provide additional logging capabilities. See "Defining transaction logging" on page 487 and "Monitoring transaction usage" on page 524 for more information on transaction logging.

♦ **Transaction and field-level help.** You can create help for the transaction itself and for each field defined in your transaction.

♦ **Dynamic menu subsystem.** We call the menu subsystem dynamic for the following reasons:

- It allows you to "fast-path" to menu options that may be at the lower levels of a menu hierarchy. That is, you can immediately access an option without having to go down through the hierarchy of options to get to it. For example:
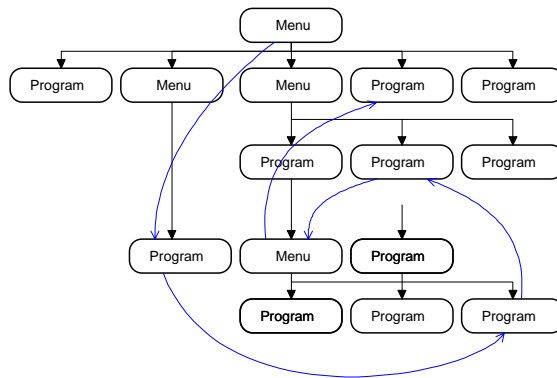
We call this *expert mode.*

- It keeps track of the menus and transactions that you've accessed. This allows you to back-track through the menus you've been using.

We call this your *transaction path.*

♦ **Application generators.** For single, list and mixed applications. The generators use templates. Templates contain standard programming code so that you don't have to spend time creating common program elements over and over again. You can customize the templates to meet your needs. See "Templates and generators" on page 436 for more information on AD/Advantage templates and generators.

♦ **Dynamic field validation.** Use either validation rules you define in AD/Advantage, or those already defined in your database.

♦ **Security system.** Provides three levels of security: system, group, and user. See "Security" on page 436 for more information on security.

♦ **End-user sign-on.** Called a *personal ID*, it is assigned to a MANTIS user. For information on creating personal IDs, see "Setting up personal IDs #ID" on page 464.

♦ **Support for multilanguage applications that conform to NLS (National Language Support) standards.** The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

The following figure shows how AD/Advantage integrates these functions:
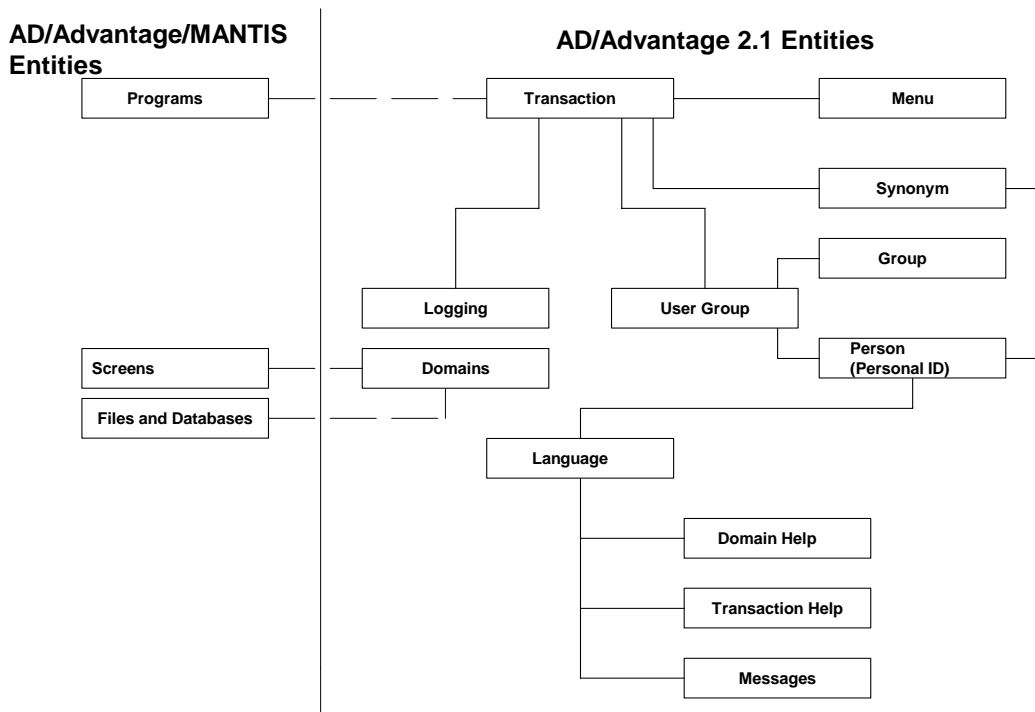
Supported databases

The following table shows the databases AD/Advantage supports:

Operating system	Database
MVS	DB2
	DL/I
	SUPRA PDM
	SUPRA RDM
	SUPRA SQL
	VSAM
VSE	DL/I
	DB2 for VSE and VM
	SUPRA PDM
	SUPRA RDM
	SUPRA SQL
	VSAM
OS/2	DBM or DB2/2
	SUPRA SQL
	VSAM emulation
DOS	SUPRA SQL (client only)
	VSAM emulation

System architecture

The following figure shows the AD/Advantage architecture:
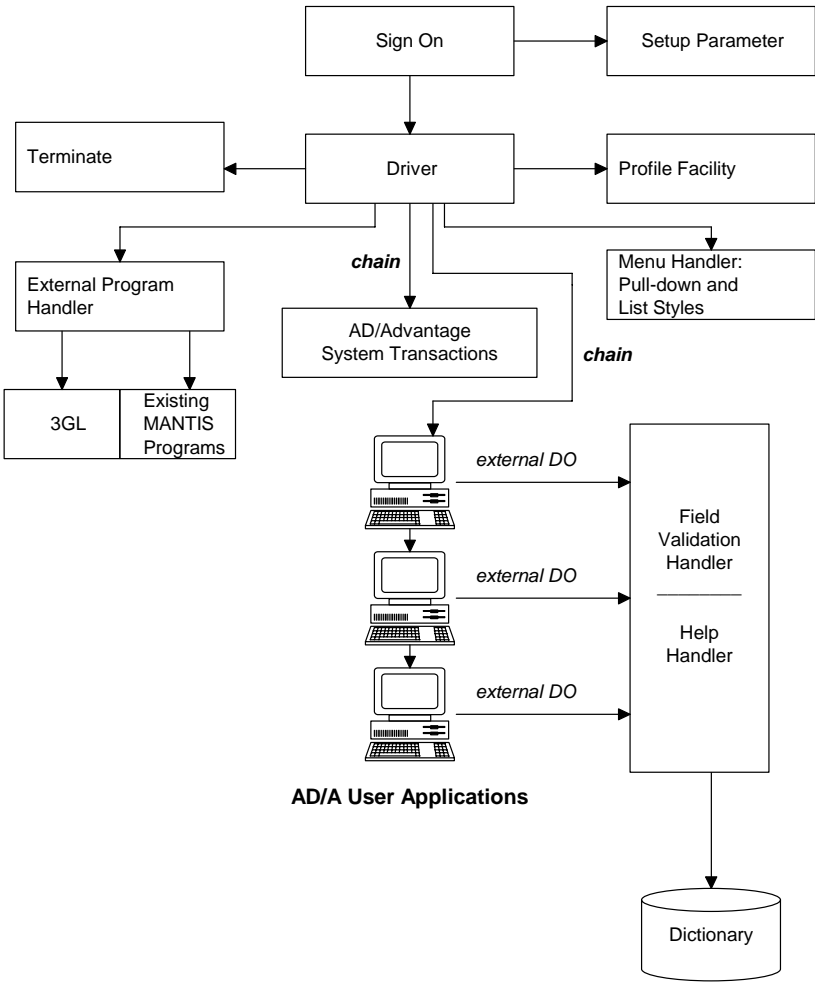
AD/Advantage is controlled by the *driver*. The driver performs the following functions:

- ◆ Navigates between programs.

- ◆ Calls external programs.

- ◆ Calls the menu handler.

- ◆ Calls the personal profile facility.

- ◆ Maintains the transaction path.

- ◆ Maintains the transaction's audit trail.

- ◆ Validates keys and commands.

- ◆ Controls transaction security.

Menus

You can specify whether you want the AD/Advantage menus to display in pull-down or list format. The following figure shows the Main Selection menu in pull-down format:

```
                            Main Selection (#MSYS)
===>                                                YYYY.MM.DD HH:MM PC-
 --------------------------------------------------------------------------
  +-----------+  +-----------+  +-----------+  +-----------+  +-----------+  +-----------+  +-----------+
  | #ADMIN    |  | #EDIT     |  | #LIST     |  | #UTILITY  |  | #GEN      |  | #OPTIONS  |  | #REPORTS  |
  +-----------+  +-----------+  +-----------+  +-----------+  +-----------+  +-----------+  +-----------+
  +------------------------------------------+
 -| Admin Functions                          |------------------------------
  | 1  Edit System Parameters                |
  | 2  Edit Generation Parameters            |
  | 3  Edit Transaction Authorizations       |
  | 4  Edit Personal IDs                     |
  | 5  List Personal IDs                     |
  | 6  Edit User Groups                      |
  | 7  Edit User Messages                    |
  | 8  Edit Function-Keys and Commands       |
  | 9  Edit Subsystems                       |
  | 10 Migrate Dictionary                    |
  +------------------------------------------+




F1-------F3-------F7-------F8-------F10------F12------F17------F18------CANCEL-
HELP     EXIT     BWD      FWD      EXHELP   PROFILE  PREV     NEXT     QUIT
```

Notice that the submenus, #ADMIN, #EDIT, #LIST, and so on, are in the *action bar*. You can access the submenus three different ways:

♦ Press TAB to position the cursor on the submenu of your choice, and then press Enter to display the pull-down menu.

♦ Type the submenu's transaction ID at the command line and press ENTER to display the pull-down menu.

♦ Use the Forward key to move forward through the submenus, or the Backward key to move backward through the submenus.

The following figure shows the Main Selection menu in list format:

```
                      Main Selection (#MSYS)
===>                                              YYYY.MM.DD HH:MM PC-00
----------------------------------------------------------------------
        1  Admin Functions ...                    (#ADMIN)
        2  Edit Functions ...                     (#EDIT)
        3  List Functions ...                     (#LIST)
        4  Utilities ...                          (#UTILITY)
        5  Generation Functions ...               (#GEN)
        6  Options ...                            (#OPTIONS)
        7  Reports ...                            (#REPORTS)




F1-------F3-------F7-------F8-------F12------F17------F18------CANCEL----------
HELP     EXIT     BWD      FWD      PROFILE  PREV     NEXT     QUIT
```

Notice that the submenus, Admin Functions, Edit Functions, List Functions, and so on, are in list format. For example, if you want to get to the Admin functions, select number 1. AD/Advantage re-draws your screen, displaying the Admin Functions menu. You then select the number of your next choice, and so on. No pull-down menus display.

See the Pulldown Menus field in "Setting system parameters #PARM" on page 443 for information on setting menu style.

Transactions

AD/Advantage uses transactions as the standard means of running your programs. You create your program using AD/Advantage, MANTIS, or a 3GL language such as COBOL or C, then you define an AD/Advantage transaction for the program. All transactions have a standard user interface, as shown in the following figure:

Immediate Program Execution

Transaction-level Help

Transaction Title Bar

Header

Command Line **Date** **Time** **Terminal**

lines 1-3

Data Portion

Empl-No

First Name

Last Name

Street

Zip/City

Department

Salary

lines 4-20

Trailer

PF1 **PF2** **PF3** **PF4** **PF6** **PF8**

Help **Find** **End** **Insert** **Update** **Page**

lines 21-24

Field Validity Checking

Field-level Help
and Extended field-level Help

Dynamic Keys and Commands

The standard user interface contains three parts:

♦ **Header.** The header area contains three lines. The title of the transaction and the transaction ID display on the first line. The second line contains the command line and the Date, Time, and Terminal fields. The third line is a separator line.

♦ **Data Portion.** The data portion is reserved for data specific to your application.

♦ **Trailer.** The trailer is reserved for displaying user messages and keys and their descriptions.
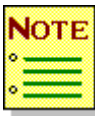
NOTE
For user applications you can customize the header and trailer according to company standards. The screens are stored in the Master User as ADV_HEADER and ADV_TRAILER.

After you define the transaction for your program, AD/Advantage automatically takes you through the steps to generate the program. After generation is complete, you are then ready to make the following refinements to your transaction:

♦ Add transaction- and field-level help.

♦ Add field validation.

♦ Add your transaction to a menu.

When you define a transaction, you give it a *transaction ID*. The transaction ID allows you to run the program at the AD/Advantage command line, as opposed to selecting the program from a menu.
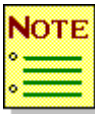
NOTE
The transaction IDs for *system transactions* (those transactions installed with AD/Advantage) begin with a special character. The hash character (#) is the default; this can be customized at installation only. All *nonsystem transactions* (that is, user-defined transactions) can begin with any character other than the special character assigned to system transactions.

For detailed information on defining transactions, refer to the *AD/Advantage Programming,* P39-7001.

Templates and generators

AD/Advantage provides *templates*. Templates contain standard programming code required for single, list, and mixed processing. Templates reduce the amount of effort you spend duplicating common code. AD/Advantage generators use templates to generate your programs. See Chapter 4 for more instructions on how to use the templates.

AD/Advantage provides *generators* for single, list, and mixed processing.

Security

AD/Advantage provides transaction and command security, or *authorization*. For both types of security, the system applies three levels of authorization: system-, group-, and user-level.
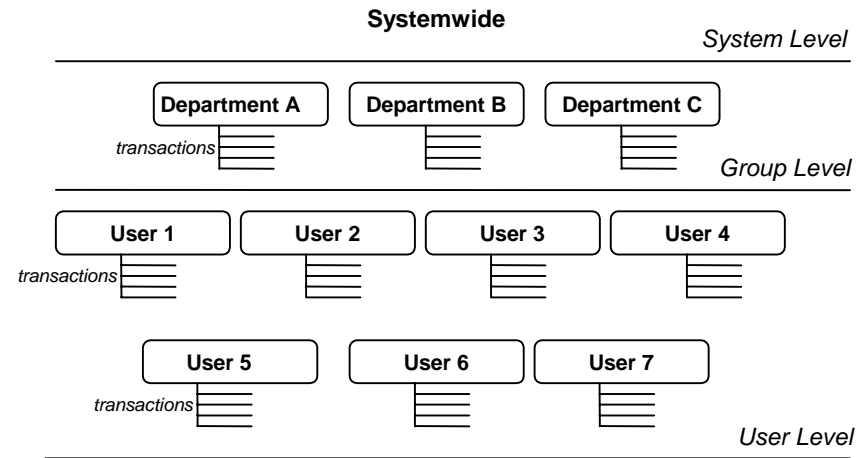
System-level authorization

System-level authorization allows all AD/Advantage users to access nonsystem transactions if they know the transaction ID or have it in a menu. However, end users cannot access system transactions unless the system administrator authorizes them at the group level or user level.

NOTE
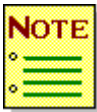
This is how AD/Advantage is installed. The system is automatically installed with two personal IDs (ADMIN and DEVELOP) and two groups (ADMIN and DEVELOP).

Group-level and user-level authorization

Group- and user-level authorization allow an individual AD/Advantage user (called a *personal ID*) to access a transaction if the system administrator creates a transaction authorization record for:

♦ One of the groups with which the personal ID is associated (group-level authorization).

♦ The personal ID (user-level authorization).

NOTE
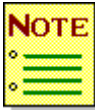
If transaction authorization is enabled (using the Transaction Authorization field in #PARM), group- and user-level authorization applies. Also, predefined authorization records for the ADMIN and DEVELOP groups take effect. These records give ADMIN authorization to *all* system transactions; DEVELOP has authorization to most, but not all, system transactions.

For information on enabling transaction authorization, see the Transaction Authorization field in "Setting system parameters #PARM" on page 443. For information on how to define a transaction authorization record using #AUTH, see "Defining transaction authorization #AUTH" on page 478. For information on how to view transaction authorization records using #AUTHL, see "Authorizations #AUTHL" on page 496.

Creating transaction authorization records

For each transaction, you must create a separate authorization record for each group or personal ID. For example, you have a human resource office with a group code of HMR, an individual in the administration office with a personal ID of DOE, and a legal office with a group code of LGL, all of whom you want to authorize for your employee maintenance transaction called EMPL. In this case, you must create three authorization records that grant the following types of authorizations:

1. HMR group authorization to use EMPL.

2. LGL group authorization to use EMPL.

3. Personal ID DOE authorization to use EMPL.

Creating command authorization records

Each transaction has a set of commands that you can use. On a transaction authorization record, you can restrict some of those commands for certain groups or users.   For example, using the preceding scenario, you may want to allow the HMR group to insert, update, and delete employee records. However, you only want the individual DOE to insert employee records. To do this, you:

1. Create one EMPL authorization record for the HMR group, and specify the Insert, Update, and Delete commands.

2. Create another EMPL authorization record for the DOE personal ID and specify the Insert command only.

For complete information on defining transaction authorization records, see "Defining transaction authorization #AUTH" on page 478.

Setting up AD/Advantage

Signing on to AD/Advantage

In addition to signing on from your operating system, AD/Advantage allows you the flexibility to sign on again from *within* the system. "Signing on from your operating system" on page 439 shows you how to sign on from your operating system; "Signing on from within AD/Advantage #SIGNON" on page 442 shows you how to sign on from within AD/Advantage.

Signing on from your operating system

To sign on to AD/Advantage from your operating system type MANT at the directory prompt.

NOTE

You can customize the sign on procedure from the operating system.

When you start AD/Advantage from your operating system, the
AD/Advantage sign-on screen displays:

```
                       ::::::
                    ::::::::::
              ::        ::::::::::
           ::::::        ::::::  ////////
        ::::::::::       //////////////
        ::::::::::::  ///////  ::::::  /////
         ::::::::::  //////  :::::::::  ////
          ::::  //////        :::::::::  //
            :  /////  :::        ::::::::::
              ////  :::::::   ///  ::::::::::
              /////  :::::::::  ///  ::::::
              /////  :::::::::::      ::
              ///////  :::::::::::
                //////  ::::::::::::      A D / A d v a n t a g e
                         ::::::
                          ::


             Your ID....
         and Password....
  Transaction to be started....
```

Your personal ID is defined to a MANTIS user. To sign on, type your
personal ID and password (password in all uppercase letters) in the
appropriate fields. If you want to go directly to a particular transaction,
type the transaction ID in the Transaction to be started field. Press
ENTER.

NOTE
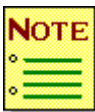
You must type your password in uppercase letters or the system will not
accept it.

NOTE
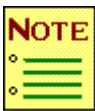
As mentioned, your personal ID is defined to a MANTIS user. You
cannot sign on to AD/Advantage with a MANTIS user and password.
The only exception to this is the MANTIS MASTER user.

The Main Selection menu displays:

```
                       Main Selection (#MSYS)
===>                                             YYYY.MM.DD HH:MM PC-
--------------------------------------------------------------------------------
 #ADMIN        #EDIT         #LIST         #UTILITY    #GEN          #OPTIONS    #REPORTS


--------------------------------------------------------------------------------












F1-------F3-------F7-------F8-------F12------F17------F18------CANCEL----------
HELP     EXIT     BWD      FWD      PROFILE  PREV     NEXT     QUIT

```

NOTE
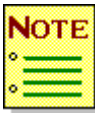
The figure above illustrates the *default* Main Selection menu. How your Main Selection menu looks depends on how you have configured AD/Advantage.

If the Main Selection menu does not display when you sign on, then one of the following occurred:

♦ From the sign-on screen, you bypassed the Main Selection menu by typing a transaction ID in the Transaction to be started field.

♦ You set your personal ID to start at a specific transaction ID.

♦ The MANTIS user you wanted to sign on to, has a start facility program different to VPF:ADV_START_FACILITY.

Signing on from within AD/Advantage #SIGNON

In addition to the initial sign on from your operating system, AD/Advantage allows you the flexibility to sign on again—either as yourself, or as another individual user—from *within* the system. Signing on from within the system is an especially useful feature because some system transactions do not activate updated information until you sign on to the system again. This feature allows you to continue using AD/Advantage without having to first exit the system to sign on again.

To sign on again from within the system, access the #SIGNON transaction. The #SIGNON transaction allows you to enter one of the following *call formats* at the command line:

#SIGNON

This displays the AD/Advantage sign-on screen.

#SIGNON.*personal id.password*

This bypasses the sign-on screen and goes immediately to the individual user's start transaction.

#SIGNON.*personal id.password.trans-id*

This bypasses the sign-on screen and start transaction and goes directly to the transaction you specify.

#SIGNON.*personal id.password.trans- id.parm1.parm2*

This bypasses the sign-on screen and start transaction, goes directly to the transaction you specify and passes the parameters to the transaction.
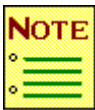
NOTE You define which character the system recognizes as the delimiter between transactions and their parameters. A period (.) is the default.

Setting global parameters

AD/Advantage contains three transactions that allow you to set global parameters for the system. The following sections describe how to configure systemwide parameters, set application generation defaults, and define keys and commands.

Setting system parameters #PARM

To define or edit system parameters, use the #PARM transaction shown below. This transaction allows you to set systemwide parameters for all individual users.

NOTE

When you update #PARM, sign back on to AD/Advantage to initiate the changes.

```
                        Edit System Parameters (#PARM)
===>                                             YYYY.MM.DD HH:MM PC-00
------------------------------------------------------------------------------
Attribute-Definition.  BRI,CUR_____  Pulldown Menus............  _
External-Do Prefix...  .                System Language...........  ENU
Transaction Journal..  _                Personal User Menus.......  _
Confirm Termination..  Y                Program-Terminator........  KILL____
Enable Synonyms......  _                Generation Facility (Y/N)..  Y
Reusable Comp.Mgmt...  _                Transaction Authorization..  _
Date Format..........  YYYY.MM.DD       No of rows in Header-Screen  3
Select by cursor.....                       One Pass Validation........  _
Upper Alpha Char.....  _____       Lower Alpha Characters.....  _____

SQL Options
    DBA User..........  _____    DBA Password........  _____
    Application User..  _____    Appl User Password..  _____
    Database-Name.....  _____
    Database Type.....  _____


F1-------F3-------F5-------F10------F12------CANCEL--------------------------
HELP     EXIT     UPD      EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Attribute-Definition

Description   *Optional.* Specifies the attributes of a field when an error occurs.

Default   BRIGHT, CURSOR

Options   Refer to *MANTIS Language, OS/390, VSE/ESA,* P39-5002, for valid options for the ATTRIBUTE statement.

Pulldown Menus

Description   *Optional.* Specifies whether the systemwide menu format is pull-down menus.

Default   Y

Options   (blank)   Displays list menus.

Y   Displays pull-down menus.

Considerations

If you specify Y in the Personal User Menus field, the option you specify in the Pulldown Menus field affects how the personal user menus display:

♦   If you specify Y for both the Pulldown Menus and Personal User Menus fields, the user can view the last 14 transactions he/she accessed. The personal user menu displays in #UMENU and on all other menus.

♦   If you specify N for the Pulldown Menus field and Y for the Personal User Menus field, the user can view the last 16 transactions he/she accessed. The personal user menu displays in #UMENU only.

External-Do Prefix

Description   *Optional.* Specifies the external DO prefix character. The external DO prefix allows you to access a transaction without losing the contents of or unsaved changes to the transaction you were previously accessing. This character is also a delimiter for parameters.

Format   Any delimiter

Default   . (period)

Consideration For information on using the external DO prefix, refer to the *AD/Advantage Programming*, P39-7001.

System Language

Description   *Required.* Specifies the default language for the system.

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Format   3 alphanumeric characters

Transaction Journal

Description	*Optional*. Specifies whether transaction journaling is enabled for all transactions.

Default   (blank)

Options   (blank)   Does not enable transaction journaling for all transactions.

Y   Enables transaction journaling for all transactions.

Considerations

♦   This option must be set to Y to enable #ACCL1, #ACCL2, and #ACCL3. See "Listing the AD/Advantage audit trail #ACCL1" on page 525, "Listing the most commonly used AD/Advantage transactions #ACCL2" on page 527, and "Displaying hourly transaction usage #ACCL3" on page 529 for more information on these transactions.

♦   If you do not want to enable transaction journaling for every transaction, you can leave this field blank and specify journaling for individual transactions using #TRN. For more information about #TRN, refer to the *AD/Advantage Programming*, P39-7001.

Confirm Termination

Description	*Optional*. Specifies whether the system prompts you with a confirmation message before AD/Advantage terminates.

Default   (blank)

Options   (blank)   Does not display a confirmation message.

Y   Displays a confirmation message.

Personal User Menus

Description *Optional.* Specifies whether to display a personal user menu showing the last several transactions the individual user accessed.

Default (blank)

Options (blank) Does not display personal user menus.

Y Displays personal user menus.

Considerations

If you specify Y, the value you enter in the Pulldown Menus field affects how personal user menus display:

♦ If you specify Y in the Pulldown Menus field, the individual user can view the last 14 transactions he/she accessed. The personal user menu displays in #UMENU and on all other menus.

♦ If you specify blank in the Pulldown Menus field, the individual user can view the last 16 transactions he/she accessed. The personal user menu displays in #UMENU only.

Enable Synonyms

Description *Optional.* Specifies whether individual users can define synonyms for transaction IDs.

Default (blank)

Options (blank) Individual users cannot use synonyms for transaction IDs.

Y Individual users can use synonyms for transaction IDs.

Consideration This field only specifies whether individual users are authorized to use synonyms. Use the #SYNONYM transaction to define synonyms for personal IDs. For more information about #SYNONYM, refer to the *AD/Advantage Programming*, P39-7001.

Program-Terminator

Description	*Required.* Specifies the command which will terminate a program from the command line.
Format	1–8 alphanumeric characters
Default	KILL

Reusable Comp. Mgmt

Description	*Optional.* Specifies whether Reusable Component Management is enabled.
Options	(blank) Does not enable Reusable Component Management.
	Y Enables Reusable Component Management.
Consideration	If you install the Component Engineering Facility (CEF) with AD/Advantage, this field defaults to Y. If CEF is not installed, you can set this field to blank.

Generation Facility (Y/N) (reserved for future use)

Description	*Optional.* Specifies whether the AD/Advantage generators can be used to generate applications.
Default	Y
Options	(blank) Does not enable the Generation Facility.
	Y Enables the Generation Facility.

Transaction Authorization

Description   *Optional.* Specifies whether the system administrator must authorize personal IDs and groups for access to system and nonsystem transactions.

Default   (blank)

Options   (blank)   All personal IDs can access nonsystem transactions; you must authorize them to access system transactions. Personal IDs in the groups ADMIN and DEVELOP can access both system and nonsystem transactions. (System transactions begin with a hash character [#] unless you changed this default at installation).

Y   All personal IDs, including those in the groups ADMIN and DEVELOP, can access only those transactions that the system administrator has authorized them to access.

Consideration AD/Advantage comes supplied with transaction authorization records already defined for groups ADMIN and DEVELOP. To activate these authorization records, set this field to Y.

To define authorization for individual transactions to personal IDs or user groups, use the #AUTH transaction. #AUTHL lists all transactions and which personal IDs and user groups are authorized to access them. For more information, see "Defining transaction authorization #AUTH" on page 478 and "Authorizations #AUTHL" on page 496.

Date Format

Description	*Required.* Specifies the date format displayed in the screen header of all transactions.
Default	YYYY.MM.DD
Options	DD Day of the month (01–31)
	MM Month (01–12)
	YY 2-digit year (00–99)
	YYYY 4-digit year (0000–9999)
Consideration	You can enter the options for the data format in any order. (e.g., DD.MM.YY or MM.DD.YYYY). Although periods are the default separators, you can use any delimiter.

No of rows in Header-Screen

Description	*Required.* Specifies the number of rows in the header portion of user transactions.
Default	3
Format	Numeric character between 1–99

Select by cursor

Description	*Optional.* Specifies if selection from a pop-up list of values is to be done by placing the cursor under the value.
Default	(blank)
Options	(blank) Selection is to be done by entering 'S' next to the value
	Y Selection from a pop-up list of values is to be done by placing the cursor under the value
Consideration	If users run MANTIS applications from AD/Advantage and can sign-off without going back to AD/Advantage, then you must update the MASTER:TERMINATE to call the AD/Advantage sign-off program in a similar manner to the MASTER:ADV_SYS_TERMINATE program.

One Pass Validation

Description	*Optional.* Specifies whether AD/Advantage validates screen fields one field at a time, or all at once in one pass.
Default	(blank)
Options	(blank) Validates fields one at a time.
	Y Validates all fields in one pass.
Consideration	One pass validation applies to individual user applications only, not system transactions.

Upper Alpha Char

Description	*Optional.* Specifies language-specific characters for uppercase alphabetic validation of input fields.
Format	1–10 alphanumeric characters

Lower Alpha Characters

Description	*Optional.* Specifies language-specific characters for lowercase alphabetic validation of input fields.
Format	1–10 alphanumeric characters

SQL options

DBA User

Description	*Optional.* Specifies the user name of the SQL database administrator.
Format	1–16 alphanumeric characters
Consideration	The DBA user must be defined in the SQL database.

DBA Password

Description	*Optional.* Specifies the password of the SQL database administrator.
Format	1–16 alphanumeric characters
Consideration	The DBA password must be defined in the SQL database.

Application User

Description	*Required* if you are using an SQL database. Specifies the SQL user that AD/Advantage applications sign on to.
Format	1–16 alphanumeric characters
Consideration	The SQL user must be defined in the SQL database with appropriate access to the SQL tables required by the application.

Appl User Password

Description	*Required* if you are using an SQL database. Specifies the password of the SQL user.
Format	1–16 alphanumeric characters
Consideration	The application user password must be defined in the SQL database.

Database-Name

> **Description**   *Required* if you are using an SQL database. Specifies the name of the database the application uses. For example, DB/2 is supplied with a database called SAMPLE.
>
> **Format**   1–30 alphanumeric characters

Database Type

> **Description**   *Required* if you are using an SQL database. Specifies the type of database product the application uses.
>
> **Format**   1–6 alphanumeric characters
>
> **Options**   SUPRA   SUPRA's SQL
>
> DB2   IBM's DB2
>
> SQL/DS   IBM's DB2 for VSE and VM (formerly SQL/DS)
>
> DBM   DB2/2
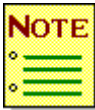
The database type options are specific to the platform on which you are running AD/Advantage.

Setting application generation defaults #DEF

To define or edit default parameters for generating applications, use the #DEF transaction shown below:

```
                     Edit Generation Parameters (#DEF)
===>                                          YYYY.MM.DD HH:MM PC-00000
------------------------------------------------------------------------------
   Rows in USRN........    1                    Format.....  BIG

   Rows in USRT........    1 Columns....    1    Format.....  TEXT

   Rows in USRK........    1 Columns....    1    Format.....  TEXT_
------------------------- Generation Defaults ------------------------------
Screen:                    Color         Intensity
                       Unprot Protect  Unprot Protect   Underline    Reverse
                       -------------   -------------   ---------    -------
   Group Header........         ___            BRI                     _
   Field Header........         ___            NOR                     _
   Text Variables...... ___     ___    NOR    NOR         _            _
   Numeric Variables... ___     ___    NOR    NOR         _            _
Program:
   Keep Keywords.......  _
   Validate all Fields.  Y
   Optimize Processing.  _
F1-------F3-------F5-------F10------CANCEL------------------------------------
HELP     EXIT     UPD      EXHELP    QUIT
```

Enter data in the appropriate fields:

Rows in USRN

Description	*Required*. Specifies the number of rows in the numeric parameter USRN.
Default	1
Format	Number between 1 and 255

Format (for USRN)

Description	*Display*. Specifies the data type of the numeric parameter USRN.

Rows in USRT

Description	*Required*. Specifies the number of rows in the alphanumeric parameter USRT.
Default	1
Format	Number between 1 and 255

Columns (in USRT)

Description	*Required*. Specifies the number of columns in the alphanumeric parameter USRT.
Default	1
Format	Number between 1 and 255

Format (of USRT)

Description	*Display*. Specifies the data type of the alphabetic parameter USRT.

Rows in USRK

Description	*Required.* Specifies the number of rows in the parameter USRK.
Default	1
Format	Number between 1 and 255

Columns (in USRK)

Description	*Required.* Specifies the number of columns in the parameter USRK.
Default	1
Format	Number between 1 and 255

Format (of USRK)

Description	*Required.* The data type of the parameter USRK.
Default	TEXT
Options	TEXT
	KANJI

Screen characteristics options. The Screen options specify color, intensity, underline, and reverse characteristics for all screen elements. Screen elements include group header, field header, text variables, and numeric variables.

The following table lists valid options for screen characteristics:

Color	Intensity	Underline	Reverse
BLUE	BRIGHT	blank (no underline)	blank (no reverse)
RED	NORMAL	Y underline	Y reverse
GREEN			
TURQUOISE			
NEUTRAL			
YELLOW			
PINK			
blank (Specifies the default color supported by your terminal)			

Group Header

Description   Specifies screen characteristics for the group header on all screens.

Color defaults Unprotect   not available

Protect   (blank)

Intensity defaults
Unprotect   not available

Protect   BRIGHT

Underline default
not available

Reverse default   (blank)

Options

Field Header

Description   Specifies screen characteristics for the field header on all screens.

Color defaults Unprotect   not available

Protect   (blank)

Intensity defaults
Unprotect   not available

Protect   NORMAL

Underline default
not available

Reverse default   (blank)

Options   See "Screen characteristics options" on page 457.

Text Variables

Description   Specifies screen characteristics for text variables on all screens.

Color defaults Unprotect   (blank)

Protect   (blank)

Intensity defaults
Unprotect   <u>NOR</u>MAL

Protect   <u>NOR</u>MAL

Underline default
(blank)

Reverse default   (blank)

Options   See "Screen characteristics options" on page 457.

Numeric Variables

Description   Specifies screen characteristics for numeric variables on all screens.

Color defaults Unprotect   (blank)

Protect   (blank)

Intensity defaults
Unprotect   <u>NOR</u>MAL

Protect   <u>NOR</u>MAL

Underline default
(blank)

Reverse default
(blank)

Options   See "Screen characteristics options" on page 457.

Programs

Keep Keywords

Description   *Required.* Specifies whether to keep the keywords in a template of a generated program as comment lines.

Default   (blank)

Options   (blank)   Does not keep keywords as comment lines.

Y   Keeps keywords as comment lines.

Validate all Fields

Description   *Optional.* Specifies whether the generator creates a call to the Validation Handler for all fields or only for those fields that have a domain defined.

Default   Y

Options   (blank)   Validation Handler validates only those fields that have a domain defined (must define the domain before program generation).

Y   Validation Handler validates every field on every screen (can define the domain after program generation).
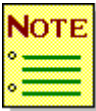
> **NOTE**
>
> For information about domains and how to define them, refer to the *AD/Advantage Programming*, P39-7001.

Optimize Processing (reserved for future use)

Description   *Required.* Specifies whether AD/Advantage optimizes validation processing.

Default   (blank)

Options   (blank)   Validates fields based on the domains defined in the #DDEF transaction.

Y   Optimizes validation processing by removing a call to the Validation Handler or a call to a validation program. Instead, the generator inserts the code to do the validation directly in the generated program.

Consideration The domains must be set up *before the program is generated* for AD/Advantage to optimize validation processing.

Setting keys and commands #PFK

To define or edit keys and their associated commands, use the #PFK transaction shown below. Keys and commands are assigned systemwide for each language. You can also assign a synonym for each command. Press the Forward key to scroll through the key and command records for each language code.

NOTE
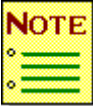
Throughout this manual, we refer to keys rather than function keys.

```
                   Edit Function-Keys and Commands (#PFK)
===>                                        YYYY.MM.DD HH:MM PC-0000
-----------------------------------------------------------------------------
Language...............  ENU
F-Key Command  Synonym     F-Key Command  Synonym     F-Key Command  Synonym
PF1    HELP____  HELP_____   PF2    EXECUTE_ EDIT_____   PF3    EXIT____  EXIT_____
PF4    INSERT__  INS_____   PF5    UPDATE__ UPD_____   PF6    DELETE__  DEL_____
PF7    BACKWARD  BWD_____   PF8    FORWARD_ FWD_____   PF9    PRINT___  PRINT____
PF10   EXHLP___  EXHELP__    PF11   CLEAR___ CLEAR____   PF12   PROFILE_  PROFILE_
PF13   GENERATE  GEN_____   PF14   FIRST___ FIRST____   PF15   LAST____  LAST_____
PF16   _____  _____    PF17   PREVIOUS PREV_____   PF18   NEXT____  NEXT_____
PF19   LEFT_____ LEFT_____   PF20   RIGHT___ RIGHT____   PF21   TOP_____  TOP_____
PF22   BOTTOM__  BOT_____   PF23   _____ _____    PF24   _____  _____
PA1....................  _____ _____        L i n e   C o m m a n d s
PA2....................  CANCEL__ QUIT_____      Insert... I   Select... S
CLEAR..................  _____ _____       Update... U   Print.... P
ENTER..................  _____ _____       Delete... D
HELP  EXIT     CANCEL BACKWARD FORWARD  INSERT   UPDATE  DELETE SEARCH TOP
PRINT PROFILE  NEXT   PREVIOUS GENERATE EXECUTE  CLEAR   FIRST  LAST   BOTTOM
EXHLP LEFT     RIGHT  PGUP     PGDN     UCMD1    UCMD2   UCMD3  UCMD4  UCMD5
F1-------F3-------F4-------F5-------F6-------F8-------F9-------F10------F11----
HELP     EXIT     INS      UPD      DEL      FWD      PRINT    EXHELP   CLEAR
```

Enter data in the appropriate fields:

Language

Description   *Required.* Specifies the language for which keys and commands are assigned.

NOTE

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Format   3 alphanumeric characters

F-Key

> **Description**   *Display*. Specifies the key to which the associated command and synonym are assigned.

Command

> **Description**   *Optional*. Specifies the command assigned to the key.
>
> **Format**   1–8 alphanumeric characters
>
> **Options**   Valid command options appear in a three-line list above the key line.

> **Considerations**
>
> You can define up to five individual user commands (UCMD1–UCMD5) for a program. To define individual user commands, you must do three things:
>
> ♦ Assign each individual user command to a key.
>
> ♦ Access #TRN and display the transaction record for the program. Then, specify Y in the appropriate individual user command field(s) (Cmd1–Cmd5) to add the individual user command(s) to the transaction definition.
>
> ♦ Access your program (or template) and add logic to specify what the program will do when each individual user command is issued.

Synonym

> **Description**   *Required* if you enter a value in the Command field. Specifies a synonym for the command.
>
> **Format**   1–8 alphanumeric characters
>
> **Consideration** Possible synonyms might include an abbreviation for the command or the name of the command in another language. If you specify a synonym for a particular command, the synonym, *not the command name*, displays with the key at the bottom of the screen. If you do not specify a synonym for a command, the system repeats the command name as the synonym.
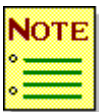
> **NOTE** Make sure that you do not use a synonym name that is already defined in the system as a transaction ID or as a transaction synonym.

Line commands

Insert

    Description   *Optional.* Specifies the character for the insert line command.

    Format   1 alphanumeric character

Select

    Description   *Optional.* Specifies the character for the select line command.

    Format   1 alphanumeric character

Update

    Description   *Optional.* Specifies the character for the update line command.

    Format   1 alphanumeric character

Print

    Description   *Optional.* Specifies the character for the print line command.

    Format   1 alphanumeric character

Delete

    Description   *Optional.* Specifies the character for the delete line command.

    Format   1 alphanumeric character

Setting up AD/Advantage users

The following sections contain detailed information about adding AD/Advantage individual users and groups, creating subsystems, and assigning messages to transactions.

Setting up personal IDs #ID

To define or edit Personal IDs, use the #ID transaction shown below. This transaction defines the personal ID and password with which an individual user signs on to the system. In addition, the personal ID provides user-level security for transaction authorization.

```
                              Edit Personal IDs (#ID)
===>                                              YYYY.MM.DD HH:MM PC-00000
-------------------------------------------------------------------------------
Personal-ID.............  _____

Password................  _____
Mantis User.............  _____
First Name..............  _____
Last Name...............  _____
Associated Groups
_____  _____  _____  _____  _____  _____  _____  _____
_____  _____
Language................  ___
Start Trans-ID..........  _____
Temporary Start-ID......  _____
Printer-ID..............  _____
Modify Help Information.  _                 Single User Signon.  _
SQL Options
Application User........  _____  Appl User Password.  _____
Database Name...........  _____
F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F14----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    FIRST
```

NOTE
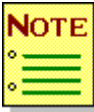
There is a difference between AD/Advantage personal IDs and MANTIS users. A MANTIS user must already exist for an AD/Advantage individual user to log on to AD/Advantage and it must has a facility program of VPF:ADV_START_FACILITY. In contrast, a MANTIS user is only able to access MANTIS and cannot log on to AD/Advantage. However, the MANTIS Master User can log on to MANTIS through the AD/Advantage sign-on screen, but is not able to access AD/Advantage functions.

In addition, #ID enables you to create as well as modify personal ID definitions. To change a personal ID's settings, you can use the #IDL transaction to select the personal ID or access a personal ID by typing #ID.*personal ID* at the command line and pressing ENTER. If you modify any of the fields in #ID and update the personal ID definition, you must sign off and sign on again before the changes take effect.

> **NOTE**
> Some of the values entered in the #ID transaction can also be updated in the personal profile. You can change elements of your personal profile, but your system administrator is authorized to completely change your personal profile if necessary. For more information about personal profiles, refer to the *AD/Advantage Programming*, P39-7001.

Enter data in the appropriate fields:

Personal-ID

Description	*Required*. Specifies an individual user's personal identification code.
Format	1–16 alphanumeric characters
Consideration	AD/Advantage is installed with two personal IDs, ADMIN and DEVELOP.

Password

Description	*Optional*. Specifies the individual's password to access the system.
Format	1–16 alphanumeric characters

Mantis User

Description   *Required.* Specifies a user name for accessing MANTIS.

Considerations

♦ AD/Advantage is installed with the following MANTIS users: MASTER (MASTER user) and EXAMPLES (some examples in programming). You can create additional MANTIS users.

NOTE

Warning: The MANTIS MASTER user is the only user that can modify the templates and generators installed with AD/Advantage. The AD/Advantage system administrator should be the only MANTIS user authorized to change existing templates and generators or create new ones. Therefore, it is strongly recommended that personal IDs created for developers and end users not be associated with the MASTER user; this ensures that only the system administrator is the only user associated with the MASTER user.

♦ AD/Advantage individual users must have the VPF:ADV_START_FACILITY program rather than normal MASTER:START_FACILITY. Once a MANTIS user is designated for use with AD/Advantage, it is no longer possible to sign on to the MANTIS User directly. All access to the MANTIS user must be via the personal ID. It is quite legitimate to setup a personal ID with the same name and password as the MANTIS User.

First Name

Description   *Required.* Specifies an individual user's first name.

Format   1–20 alphanumeric characters

Last Name

Description   *Required.* Specifies an individual user's last name.

Format   1–30 alphanumeric characters

Associated Groups

Description *Optional.* Specifies the group(s) with which an individual user is associated.

Considerations

♦ AD/Advantage is installed with the following groups: ADMIN (System Administration group) DEVELOP (Application Development group). You can create additional groups using the #GROUP transaction (see "Setting up user groups #GROUP" on page 471 for more information).

♦ Associating individual users with groups is important since group authorization to transactions enables individual users in those groups to be automatically authorized to the same transactions. This means that you will save a great deal of time by not having to specify individual transactions to individual users.

Language

Description *Required.* Specifies the language in which the system should display.
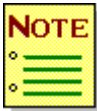
NOTE

The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

NOTE
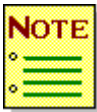
The language you specify for an individual personal #ID overrides the systemwide language you specified in #PARM. This allows you to set different languages for individual personal IDs to access the same session of MANTIS.

Format 3 alphanumeric characters

Start Trans-ID

Description   *Required*. Specifies which transaction initiates after signing on to the system.

NOTE   All system transactions begin with a hash character (#) by default; your system administrator may have changed this character.

Consideration   System administrators normally enter the system at the #MSYS transaction (the main selection menu for administrators), and developers normally enter the system at the #SYS transaction (the main selection menu for developers).

Temporary Start-ID

Description   *Display*. Specifies the name of a transaction ID temporarily stored by AD/Advantage when you access MANTIS. AD/Advantage uses the temporary start ID internally to store the last transaction you accessed before calling a transaction which takes you into MANTIS. When you reenter AD/Advantage, you return to the transaction from where you left AD/Advantage.

Printer-ID

Description   *Optional*. Mainframe users: Specifies the ID of the printer you want to use.

Default   The printer ID that your system administrator specified in your personal ID

Format   1–16 alphanumeric characters

Consideration   Enter SCREEN in this field to print to the screen.

Modify Help Information

Description	*Optional.* Specifies whether an individual user can or cannot modify help screen information without using #DHLP or #HLP.
Default	(blank)
Options	(blank) Individual personal IDs cannot modify help screen information.
	Y Individual personal IDs can modify help screen information directly in a transaction.

Single User Signon

Description	*Optional.* Specify that only one person can use this personal ID. This allows only one terminal to use this personal ID at one time. Multiple logon attempts cause an ASO message.
Default	(blank)
Options	(blank) Multiple logons are allowed for this personal ID.
	Y Only one person and terminal can use this personal ID at one time.

SQL options

Application User

Description   *Optional.* Specifies the SQL user that AD/Advantage applications sign on to.

Format   1–16 alphanumeric characters

Consideration   This overrides the SQL Application User specified by the administrator in the #PARM transaction.

Appl User Password

Description   *Optional.* Specifies the password of the SQL user.

Format   1–16 alphanumeric characters

Consideration   This overrides the SQL APPL User Password specified by the administrator in the #PARM transaction.

Database Name

Description   *Optional.* Specifies the name of the database the application uses. For example, DB2/2 is supplied with a database called SAMPLE.

Format   1–30 alphanumeric characters

Consideration   This overrides the Database Name specified by the administrator in the #PARM transaction.
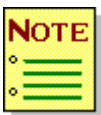
NOTE	If you insert or update a personal ID, your changes will take effect the next time you sign on to AD/Advantage.

Setting up user groups #GROUP

AD/Advantage allows you to define groups with which you can associate personal IDs. For example, an employee in the finance group might have his/her personal ID associated with the Finance group you create in #GROUP. User groups provide transaction authorization at the group level.

To assign user groups, use the #GROUP transaction shown below. This transaction enables you to create and modify groups. To change a user group's settings, you can use the #GROUPL transaction to select the group or access a group by typing #GROUP.*group ID* at the command line and pressing ENTER. In addition, you can use the #GROUPP transaction to print a group.

```
                        Edit User Groups (#GROUP)
===>                                              YYYY.MM.DD HH:MM PC-00000
-----------------------------------------------------------------------------
Group-ID.......  _____

Group Name.....  _____




 
 
 
 
 

F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F14----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    FIRST
```

Enter data in the appropriate fields:

Group-ID

Description	*Required.* Specifies the group's identification code.
Format	1–8 alphabetic characters
Consideration	AD/Advantage is installed with two user groups, ADMIN and DEVELOP.

Group Name

Description	*Required.* Specifies a name for the group.
Format	1–40 alphanumeric characters

Setting up subsystems #SUB

To define subsystems, use the #SUB transaction shown below. This transaction enables you to more easily migrate transactions between applications. An example of a subsystem could be the finance subsystem . If you wanted to migrate all entities associated with this subsystem from one operating system to another (e.g., from the PC to mainframe), you would first use the #SUB transaction to create a finance subsystem. This enables you to track which AD/Advantage entities belong to a subsystem to ease maintenance and migration of your applications from test to production.

To change a subsystem definition, you can use the #SUBL transaction to select the subsystem or access a subsystem by typing #SUB.*subsystem ID* at the command line and pressing ENTER.

```
                          Edit Subsystems (#SUB)
===>                                              YYYY.MM.DD HH:MM PC-00000
-----------------------------------------------------------------------------
Subsystem.........  ___
Subsystem Name....  _____






 


F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F14----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    FIRST

```

Enter data in the appropriate fields:

Subsystem

Description   *Required.* Specifies the subsystem identification code.

Format   3 alphanumeric characters

Consideration   AD/Advantage is installed with two subsystems, ADV (which is reserved for AD/Advantage system functions) and DEV (which is the developer subsystem).

Subsystem Name

Description   *Optional.* Specifies the subsystem name.

Setting up user messages #MSG

To define the user messages, use the #MSG transaction shown below.
This transaction enables you to create and modify messages and define
the severity of each message. To change a message, you can use the
#MSGL transaction to select the message or access a message by
typing #MSG.*message ID* at the command line and pressing ENTER. In
addition, you can use the #MSGP transaction to print a message.

```
                        Edit User Messages (#MSG)
===>                                             YYYY.MM.DD HH:MM PC-00000
--------------------------------------------------------------------------------
Language...............  ___

Subsystem..............  ___

Message-No.............  ___

Text.  _____

Level Indicator........  _




F1-------F3-------F4-------F5-------F6-------F8-------F9-------F10------F11----
HELP     EXIT     INS      UPD      DEL      FWD      PRINT    EXHELP   CLEAR
```

Enter data in the appropriate fields:

Language

    Description   *Required.* Specifies the language for the message.
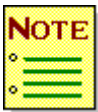
The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.
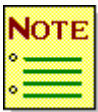
The systemwide language setting specified in the #PARM transaction does not affect the language you specify for an individual message in the #MSG transaction.

    Format   3 alphanumeric characters

Subsystem

    Description   *Required.* Specifies the subsystem identification code.

    Format   3 alphanumeric characters

Message-No

    Description   *Required.* Specifies the message identification code.

    Format   1–3 alphanumeric characters

Text

    Description   *Optional.* Specifies the text of the message.

Level Indicator

    Description   *Required.* Specifies the severity of the message.

    Format   1 alphabetic character

    Options   A   Action required

                      C   Confirmation

                      E   Error

                      F   Fatal

                      I   Information

                      W   Warning

Defining transaction authorization #AUTH

To assign authorization to transactions, use the #AUTH transaction. This transaction enables you to create authorization records for transactions at either the group or individual user level. To change an authorization record, you can use the #AUTHL transaction to select the transaction or access a transaction authorization record by typing #AUTH.*transaction ID* at the command line and pressing ENTER.

NOTE	The Transaction Authorization field setting in #PARM (see "Setting up personal IDs #ID" on page 464) affects how you use the #AUTH transaction:

♦   If transaction authorization is enabled, you must define authorization records in #AUTH to allow individual users and groups access to any transaction. You can set transaction authorization globally and authorize different personal IDs to use different transactions.

♦   If transaction authorization is not enabled, the ADMIN and DEVELOP groups can access all system and nonsystem transactions by default. Other individual users and groups can access nonsystem transactions only. You must define authorization records in #AUTH to allow other individual users and groups access to system transactions.

The default command settings for a transaction display in #AUTH based on those defined in #TRN. In #AUTH you can change any of the commands set to Y to blank. Changing the setting from Y to blank revokes the command for the particular user group or personal ID

Finally, AD/Advantage automatically creates a blank authorization record (without a group or personal ID specified) for all new transactions.

The following transactions are considered to be system administration functions. We strongly recommend that you authorize these transactions for the ADMIN group only.

- ♦ #AUTH

- ♦ #DEF

- ♦ #GEN

- ♦ #GENIND

- ♦ #GROUP

- ♦ #ID

- ♦ #MSG

- ♦ #MIGDIC

- ♦ #PARM

- ♦ #PFK

- ♦ #SUB

To assign authorization to transactions, use the #AUTH transaction, shown below:

```
                  Edit Transaction Authorizations (#AUTH)
===>                                           YYYY.MM.DD HH:MM PC-FF
-----------------------------------------------------------------------------
Trans-ID.........  _____

Group-ID.........  _____

Personal-ID......  _____


Command Settings which override Transaction Defaults:

General Confirm.  _    Print..  _    Generate.  _     Execute.  _

 Single Insert..  _    Update.  _    Delete...  _

   List Insert..  _    Update.  _    Delete...  _    Select..  _ _____

   User Cmd1....  _    Cmd2...  _    Cmd3.....  _    Cmd4....  _    Cmd5.....  _

F1-------F3-------F4-------F5-------F6-------F8-------F10------F11------F12----
HELP     EXIT     INS      UPD      DEL      FWD      EXHELP   CLEAR    PROFILE
```

Enter data in the appropriate fields:

Trans-ID

Description   *Required.* Specifies the transaction for which you are assigning authorization.

All system transactions begin with a hash character (#) by default; your system administrator may have changed this character.

Format   1–8 alphanumeric characters

Group-ID

Description   *Optional.* Specifies the group to have authorization to a transaction. If you want to set group authorization to a transaction, you cannot set individual user authorization (in the Personal-ID field) to the transaction in the same authorization record.

Format   1–8 alphanumeric characters

Personal-ID

Description   *Optional.* Specifies the personal ID to which you are authorizing the transaction. If you want to set individual user authorization to a transaction, you cannot set group authorization (in the Group-ID field) to the transaction in the same authorization record.

Format   1–16 alphanumeric characters

There are four different commands for which you can assign transaction authorization: General, Single, List, and User.

NOTE

You can press ENTER at this time to display the transaction defaults for the commands.

General commands

Confirm

Description	*Optional*. Specifies whether the transaction supports the confirm command for deletions.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support confirming deletions.
	Y The transaction supports confirming deletions.

Print

Description	*Optional*. Specifies whether the transaction supports the print command and its assigned key.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support printing.
	Y The transaction supports printing.

Generate

Description	*Optional.* Specifies whether the transaction supports the generate command and its assigned key.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support generation.
	Y The transaction supports generation.

Execute

Description	*Optional.* Specifies whether the transaction supports the execute command and its assigned key.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support execution.
	Y The transaction supports execution.

Single commands

Insert

Description	*Optional.* Specifies whether the transaction supports the insert record command and its assigned key.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support inserting records.
	Y The transaction supports inserting records.

Update

Description	*Optional.* Specifies whether the transaction supports the update record command and its assigned key.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support updating records.
	Y The transaction supports updating records.

Delete

Description	*Optional.* Specifies whether the transaction supports the delete record command and its assigned key.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support deleting records.
	Y The transaction supports deleting records.

List commands

Insert

Description	*Optional.* Specifies whether the transaction supports the insert line command.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support inserting lines.
	Y The transaction supports inserting lines.

Update

Description	*Optional.* Specifies whether the transaction supports the update line command.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support updating lines.
	Y The transaction supports updating lines.

Delete

Description	*Optional.* Specifies whether the transaction supports the delete line command.
Default	(blank) or Y as specified in the transaction definition
Options	(blank) The transaction does not support deleting lines.
	Y The transaction supports deleting lines.

Select

Description   *Optional*. Specifies whether the transaction supports the select line command.

NOTE	The entry you specify for the Select field in #AUTH overrides the entry in the Select field in #TRN.

Default   (blank)

Options   (blank)   The transaction does not support selecting lines.

Y   The transaction supports selecting lines.

Select Trans-ID (field untitled on screen)

Description   *Required* if you set the Select field to Y. In a list transaction, specifies which transaction runs when the user enters the Select command in the Select field.

Format   1–8 alphanumeric characters

User commands

Cmd1 through Cmd5

Description	*Optional.* Specifies whether the transaction supports user-defined commands created in the #PFK transaction.
Default	(blank) or Y as specified in the transaction definition.
Options	(blank) The transaction does not support user-defined commands.
	Y The transaction supports user-defined commands.

Defining transaction logging

AD/Advantage supplies reports for transaction logging, but you can also create your own. The following AD/Advantage reports show transaction usage:

♦ **#ACCL1.** AD/Advantage audit trail (see "Listing the AD/Advantage audit trail #ACCL1" on page 525).

♦ **#ACCL2.** The most commonly used transactions (see "Listing the most commonly used AD/Advantage transactions #ACCL2" on page 527).

♦ **#ACCL3.** Lists hourly transaction usage (see "Displaying hourly transaction usage #ACCL3" on page 529).

You can enable transaction logging (AD/Advantage monitors your transaction usage) through the Transaction Journal field in #PARM (see "Setting system parameters #PARM" on page 443 for more information). If you set this field to Y, you enable transaction logging for AD/Advantage. If you leave this field blank in #PARM, you disable transaction logging for AD/Advantage. However, you can enable transaction logging for individual transactions using #TRN (for more information, refer to *AD/Advantage Programming*, P39-7001). If you set the Trans Journal field in #TRN to Y, you enable transaction logging for a transaction. If you leave this field blank in #TRN, you disable transaction logging for a transaction.

To create your own reports use the external file ADV_ACCOUNTING in the MANTIS MASTER user. For example, you can create a program to report just the transactions logged by an individual personal ID. For more information on editing MANTIS files, mainframe users refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

Optimizing system performance

You can use the Shared Pool Facility to optimize system performance. The Shared Pool Facility allows you to place frequently used programs in a shared pool, which resides in memory. This facility reduces cluster I/O, storage, utilization, and the amount of data rolled in and out on every terminal I/O.

We recommend that you place the following AD/Advantage programs in the Shared Pool:

♦   ADV_SYS_ID

♦   ADV_START_FACILITY

♦   ADV_SYS_DRIVER

♦   ADV_MNU (if you are using Traditional List Style Menus)

♦   ADV_MNU_CUA (if you are using CUA style Menus)

♦   ADV_SYS_TEST

♦   ADV_SYS_HLP

♦   ADV_SYS_MESSAGE

♦   ADV_GNT_ADD_LINE

For more information on how to use the Shared Pool Facility, see "Shared Pool Facility" on page 337.

User transactions with a large number of fields can have performance problems because of the overhead in validating each field. You can reduce this overhead in the following ways:

♦ Remove calls to SYS_TEXT for fields that do not have domains defined from the generated program.

♦ If domains are defined before running the generator, then removing the Y for Validate all fields in the system defaults transaction (#DEF), only validation calls for those domains that exist will be generated.

♦ If the optimize processing option in the #DEF is set to Y, Ad/Advantage generates certain validation into the program (calls to user validation routines and calls to validate against a file or table) directly in the program instead of call SYS_TEXT.

♦ On UNIX (and VMS) platforms, the Ad/Advantage file VPF:ADV_DOMAIN can be put into the shared entity pool. Reducing physical I/O to this file has a marked performance improvement.

Native Language Support (NLS)

AD/Advantage II supports the generation of multilanguage applications. Enabling NLS in AD/Advantage requires the following steps:

1. Update the Generator transaction definitions, #GENSQL and #GENIND. Append ,NLS to the userdata field. For example, it will then read:

    ```
    <<TMP>>,NLS
    ```

    This tells the generator to generate NLS transactions.

2. Update the templates (programs in the MASTER user prefixed ADV_TMP), changing <<SCREEN>> to <<NLSSCREEN>> and move the SCREEN statement to after the line that reads SYSLANGID=SYST (4, 25, 27).

3. Define the user transaction specifying descriptions for each language to be supported. For example, enter ENU and DEU descriptions to generate a transaction to support English and German.

NOTE

The generator will generate a separate screen (with a 3-character language prefix) for each language. For example, the German screen will be DEU*xxxxxxx*. Also, the generator will read the field help titles for each field and use these as screen titles if they exist. Therefore, it is a good idea to setup the field help for each field and language before running the generator.

Support for Full Display Screens (24 lines)

AD/Advantage will generate Full Display Screens. However, system messages will no longer display on the bottom line of the screen. It is the responsibility of the user programs to put the messages onto the screens.

To set up AD/Advantage to generate Full Display Screens:

1. Append ,FDSP to the userdata field of the #GENSQL and #GENIND transactions. For example, the userdata will become <<TMP>>,FDSP. This tells the AD/Advantage generator to generate full display screens.

2. Run the program VPF:ADV_INS_FULL_DISPLAY. This will modify some of the system pop-up screens so that they are also full display.

3. Modify your header and trailer screens so that they are full display and modify the templates so that the messages are displayed (usually in a message field in the trailer screen).

Maintaining AD/Advantage

To maintain your AD/Advantage system, you will need to know how to do the following:

System administration function	See
Edit System Transactions	"Editing system transactions" on page 492.
List System Transactions	"Listing system transactions" on page 494.
Print System Transactions	"Printing system transactions" on page 510.
Monitor Transaction Usage	"Monitoring transaction usage" on page 524.
Migrate the AD/Advantage Dictionary between Systems	"Migrating the AD/Advantage dictionaries between systems #MIGDIC" on page 531.
Changing the Special Character for System Transactions	"Changing the special character for system transactions #UPDCHAR" on page 535.

Editing system transactions

You can edit the following system transactions at any time:

♦ Application Generation Parameters

♦ Keys and Commands

♦ Personal IDs

♦ Subsystems

♦ System Configuration Parameters

♦ Transaction Authorizations

♦ User Groups

♦ User Messages

"Setting up AD/Advantage" starting on page 439 shows the screen layout and field descriptions for these transactions. The same information provided in Chapter 2 also applies when you are editing system transactions. Therefore, use the following matrix to determine which section to turn to for more information:

To edit	Enter the following at the command line	and see section
Application Generation Parameters	#DEF	"Setting application generation defaults #DEF" on page 454.
Keys and Commands	#PFK	"Setting keys and commands #PFK" on page 461.
Personal IDs	#ID	"Setting up personal IDs #ID" on page 464.
Subsystems	#SUB	"Setting up subsystems #SUB" on page 473.
System Configuration Parameters	#PARM	"Setting system parameters #PARM" on page 443.
Transaction Authorizations	#AUTH	"Defining transaction authorization #AUTH" on page 478.
User Groups	#GROUP	"Setting up user groups #GROUP" on page 471.
User Messages	#MSG	"Setting up user messages #MSG" on page 475.

Listing system transactions

You can display a directory style listing for Authorization records, Personal IDs, Subsystems, Groups and User Messages. From these listings, you can perform various functions, such as editing or deleting an item.

For example, you may want to edit a particular menu definition, but you forget the menu's transaction ID. To access all menus defined in AD/Advantage, you type the transaction #MENUL (which stands for *list menus*). The menu listing shows each menu ID and all transactions on that menu. Type an S in the Selection field next to the menu you want to edit. AD/Advantage displays the menu definition and you can edit it as you require.

NOTE
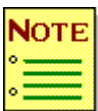
When you enter a transaction listing, only user-defined transactions (nonsystem transactions) display. To list system transactions as well, press the First key. When you press the First key, AD/Advantage lists all system transactions first (system transactions begin with a hash sign by default), and then user-defined transactions.

In maintaining AD/Advantage, you may want to display or view a directory-style listing of the system transactions in the following table. However, AD/Advantage has many more transactions that provide a directory-style listing. Refer to the *AD/Advantage Programming*, P39-7001, for more information.

System transaction	See section
Authorizations #AUTHL	"Authorizations #AUTHL" on page 496.
Personal IDs #IDL	"Personal IDs #IDL" on page 499.
Subsystems #SUBL	"Subsystems #SUBL" on page 501.
System and User Parameters #DEBUG	"System and user parameters #DEBUG" on page 503.
User Groups #GROUPL	"User groups #GROUPL" on page 504.
User Messages #MSGL	"User messages #MSGL" on page 506.

Authorizations #AUTHL

To list authorization records, use the following #AUTHL transaction:
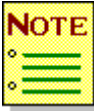
NOTE Some transactions may show no group or personal IDs authorized for them. This means that everyone on the system can access those transactions. Also, an authorization record (without a group or personal ID authorized) is automatically created by the system for new transactions.

```
                  List Transaction Authorizations (#AUTHL)
 ===>                                                  YYYY.MM.DD HH:MM PC-
-------------------------------------------------------------------------------
  S      Trans-ID   Group-ID Personal-ID
  _      #ACCL1     ADMIN
  _      #ACCL1     DEVELOP
  _      #ACCL2     ADMIN
  _      #ACCL2     DEVELOP
  _      #ACCL3     ADMIN
  _      #ACCL3     DEVELOP
  _      #ADMIN     ADMIN
  _      #AUTH      ADMIN
  _      #AUTHL     ADMIN
  _      #AUTHL     DEVELOP
  _      #CINT      ADMIN
  _      #CINT      DEVELOP
  _      #CPY-IN    ADMIN
  _      #DATAL     ADMIN
  _      #DATAL     DEVELOP
  _      #DDEF      ADMIN
 F1-------F3-------F8-------F10------F12------F14------CANCEL------------------
 HELP     EXIT     FWD      EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description	*Optional*. Specifies the type of action you want to perform on the authorization record.
Format	1 alphabetic character
Options	S Displays the Edit Transaction Authorization (#AUTH) screen with the corresponding record. See "Defining transaction authorization #AUTH" on page 478 for information on editing the record.
	D Deletes the transaction authorization record.

> **NOTE**
>
> If you plan to create a new authorization record for a transaction which has an authorization record without a group or personal ID specified, you should delete the existing authorization record before adding the new one.

Trans-ID

Description	*Conditional*. Displays the authorization records in alphabetical order. The first field in the Trans-ID column is *Optional*. You can use it to list from a specific record forward. All remaining fields in the Trans-ID column are *Display only*.
Format	8 alphanumeric characters
Consideration	To list from a specific authorization record forward, enter the record's transaction ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new record forward.

Group-ID

Description	*Display*. Specifies the group IDs that are authorized to use the transactions.
Consideration	Overtype the first group or personal ID in the list and press the Forward function key to list all authorizations for a particular group or personal ID.

Date/Time Changed

    Description   *Display*. Specifies the date and time of the last change to the authorization.

Personal_ID

    Description   *Display*. Specifies the Personal_ID of the user who made the last change to the authorization.

Terminal

    Description   *Display*. Specifies the Terminal of the user who made the last change to the authorization.

Personal-ID

    Description   *Display*. Specifies the personal IDs that are authorized to use the transactions.

Personal IDs #IDL

To list personal IDs, use the #IDL transaction shown below:

```
                       List Personal IDs (#IDL)
===>                                          YYYY.MM.DD HH:MM PC-
------------------------------------------------------------------------------
S Personal-ID      Name                       Lng Start-ID Mantis-User
_ ADMIN            USER, ADMIN                 ENU #MSYS    EXAMPLES
_ DEVELOP          USER, DEVELOPER             ENU #SYS     EXAMPLES
_
_
_
_
_
_
_
_
_
_
_
_
_
_
F1-------F3-------F8-------F9-------F10------F12------F14------CANCEL----------
HELP     EXIT     FWD      PRINT    EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

> **Description**   *Optional.* Specifies the type of action you want to perform on the personal ID.
>
> **Format**   1 alphabetic character
>
> **Options**   S   Displays the Edit Personal IDs screen (#ID) with the corresponding personal ID. See "Setting up personal IDs #ID" on page 464 for information on editing personal IDs.
>
> D   Deletes the personal ID.
>
> R   Reset a single user sign-on record for a personal ID. Use this if a personal ID cannot sign-on and gets the message "User Already Signed On". Resetting the ADMIN Personal-ID resets all personal IDs.

Personal-ID

> **Description** *Conditional*. Lists the personal IDs in alphabetical order. The first field in the Personal-ID column is *Optional*. You can use it to list from a specific personal ID forward. All remaining fields in the Personal-ID column are *Display only*.
>
> **Format** 1–16 alphanumeric characters
>
> **Consideration** To list from a specific personal ID forward, type the personal ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new personal ID forward.

Name

> **Description** *Display*. Specifies the user's first and last name.

Lng

> **Description** *Display*. Specifies the system language for the user.
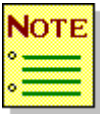
> The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Start-ID

> **Description** *Display*. Specifies the transaction which displays when the user first signs on to the system.

Mantis-User

> **Description** *Display*. Specifies the MANTIS user to which the personal ID signs on.

Subsystems #SUBL

To list subsystems, use the #SUBL transaction shown below:

```
                         List Subsystems (#SUBL)
===>                                              YYYY.MM.DD6 HH:MM PC-00
------------------------------------------------------------------------------
S Subsystem     Subsystem Name
_ ADV           AD/Advantage System Functions
_ DEV           Developer Subsystem
_
_
_
_
_
_
_
_
_
_
_
_
F1-------F3-------F8-------F9-------F10------F12------F14------CANCEL----------
HELP      EXIT     FWD      PRINT    EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description	*Optional.* Specifies the type of action you want to perform on the subsystem.
Format	1 alphabetic character
Options	S Displays the Edit Subsystems screen (#SUB) with the corresponding subsystem. See "Setting up subsystems #SUB" on page 473 for information on editing subsystems.
	D Deletes the subsystems.

Subsystem

Description	*Conditional.* Lists the subsystem IDs in alphabetical order. The first field in the Subsystem column is *Optional.* You can use it to list from a specific subsystem forward. All remaining fields in the Subsystem column are *Display only.*
Format	3 alphanumeric characters
Consideration	To list from a specific subsystem forward, type the subsystem ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new subsystem forward.

Subsystem Name

Description	*Display.* Specifies the name of the subsystem.

System and user parameters #DEBUG

To display the areas of the system parameter SYST and the user parameters USRT, USRN, and USRK, use the #DEBUG transaction shown below. When you enter #DEBUG at the command line, the SYST parameter area displays first. Press the Forward key to access each subsequent parameter area (USRT, USRN, and then USRK).

```
                     Debug Program Parameters (#DEBUG)
===>                                            YYYY.MM.DD HH:MM PC-
-------------------------------------------------------------------------------
Variable......  SYST

          10        20        30        40        50        60        70        8
----.----:----.----:----.----:----.----:----.----:----.----:----.----:----.----
HELP    EXECUTE EXIT    INSERT  UPDATE  DELETE  BACKWARDFORWARD PRINT   EXHLP
PF1-----PF2-----PF3-----PF4-----PF5-----PF6-----PF7-----PF8-----PF9-----PF10---
HELP            EXIT                                    FWD             EXHELP
BRI,CUR            .24 ENUENUENUPC      F3=EXIT F7=BWD F8=FWD
ADMIN           ADMIN   A       PF3     PF8     PF7     PF1     CANCEL  #DEBUG  #MSYS
#DEBUG  #MSGL   #MSG    #GROUP  #GROUPL #GROUP  #GROUPL #SUBL   #SUB    #SUBL
HELP    EXIT    FWD     EXHELP  PROFILE LEFT    RIGHT   QUIT
HELP    EDIT    EXIT    INS     UPD     DEL     BWD     FWD     PRINT   EXHELP
PRIN            KILL    PC-




F1-------F3-------F8-------F10------F12------F19------F20------CANCEL----------
HELP     EXIT     FWD      EXHELP   PROFILE  LEFT     RIGHT    QUIT
```

User groups #GROUPL

To list user groups, use the #GROUPL transaction shown below:

```
                       List User Groups (#GROUPL)
 ===>                                               YYYY.MM.DD HH:MM PC-
-------------------------------------------------------------------------------
  S     Group-ID   Group Name
  _     ADMIN      System Administration
  _     DEVELOP    Application Development
  _
  _
  _
  _
  _
  _
  _
  _
  _
  _
  _
  _
  _
 F1-------F3-------F8-------F9-------F10------F12------F14------CANCEL----------
 HELP     EXIT     FWD      PRINT    EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

S (Selection)

Description	*Optional*. Specifies the type of action you want to perform on the group.
Format	1 alphabetic character
Options	S Displays the Edit User Groups screen (#GROUP) with the corresponding user group. See "Setting up user groups #GROUP" on page 471 for information on editing user groups.
	D Deletes the user group.

Group-ID

Description	*Conditional*. Lists the user group IDs in alphabetical order. The first field in the Group-ID column is *Optional*. You can use it to list from a specific user group forward. All remaining fields in the Group-ID column are *Display only*.
Format	1–8 alphabetic characters
Consideration	To list from a specific user group forward, type the group ID (or its first few characters) in the first field and press the Forward key. AD/Advantage repositions the list from the new user group forward.

Group Name

Description	*Display*. Specifies the name of the group.

User messages #MSGL

To list user messages, use the #MSGL transaction shown below:

```
                       List User Messages (#MSGL)
===>                                              YYYY.MM.DD HH:MM PC-75
--------------------------------------------------------------------------
S Lng Sys No  I Message Text
_ ENU ADV ?*= I Invalid Operator, only = * ? /
_ ENU ADV ASS E Please assign the Keys of the Secondary File
_ ENU ADV BUF E Please insert the Header Record first
_ ENU ADV BYE I Do You really want to quit?
_ ENU ADV C01 E This Field is required
_ ENU ADV C02 E Key in complete length
_ ENU ADV C03 E Wrong value on position #, the format is:  #
_ ENU ADV C04 E Invalid, press # for more Information
_ ENU ADV C05 E Input must be between #
_ ENU ADV C06 E Value invalid, next record read
_ ENU ADV CFP E The Program was not found
_ ENU ADV CGE I Generation canceled
_ ENU ADV CHA E You cannot enter an Entity beginning with #
_ ENU ADV CIN E Invalid command
_ ENU ADV CL1 I Transactions available to you
_ ENU ADV CL2 I Your Personal Synonyms
F1-------F3-------F8-------F9-------F12------F14------CANCEL-------------------
HELP     EXIT     FWD      PRINT    PROFILE  FIRST     QUIT
```

Enter data in the appropriate fields:

___

S (Selection)

Description   *Optional.* Specifies the type of action you want to perform on the user message.

Format   1 alphabetic character

Options   S   Displays the Edit User Messages (#MSG) screen with the corresponding message. See "Setting up user messages #MSG" on page 475 for information on editing the message.

D   Deletes the message.

___

Lng

Description   *Conditional.* Lists the messages' language IDs in alphabetical order. The first field in the Lng column is *Optional.* You can use it to list from a specific language forward. All remaining fields in the Lng column are *Display only.*

NOTE The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Format   3 alphanumeric characters

Consideration To list from a specific user message forward, type the message's language ID in the Lng field (or its first few characters), the subsystem ID in the Sys field, the number in the No field, and press the Forward key.

___

Sys

Description   *Conditional.* Lists the messages' subsystem IDs in alphabetical order. The first field in the Sys column is *Optional.* You can use it to list from a specific subsystem forward. All remaining fields in the Sys column are *Display only.*

Format   3 alphanumeric characters

Consideration To list from a specific user message forward, type the message's language ID in the Lng field, the subsystem ID in the Sys field (or its first few characters), the number in the No field, and press the Forward key.

No

    Description   *Conditional*. Displays the messages' numbers in alphanumeric order. The first field in the No column is *Optional*. You can use it to list from a specific number forward. All remaining fields in the No column are *Display only*.

    Format   3 alphanumeric characters

    Consideration   To list from a specific user message forward, type the message's language ID in the Lng field, the subsystem ID in the Sys field, the number (or its first few characters) in the No field, and press the Forward key.

I (Indication of Severity)

    Description   *Display*. Indicates the severity level of the user's input.

    Options   I Informational

                      W Warning

                      A Action required

                      C Confirmation

                      E Error

                      F Fatal

Message Text

Description	*Conditional*. Displays the text of the messages. The first field in the message column is *Optional*. You can use it to list all messages that contain certain words in their text (description). All remaining fields on the screen are *Display only*.
Format	1–70 alphanumeric characters, including delimiters
Consideration	To list all messages which contain certain word(s) in their text, do the following:

1. Position your cursor in the first Message Text field.

2. Delete the current message displaying.

3. Type the word(s) for which you are searching.

4. Press the Forward key.

You get a listing of all messages that contain the words you typed.

Example	You want to get a listing of all the messages that contain the word Program in their text. Tab to the Message Text field, overtype the current message, type the word Program and press the Forward key. AD/Advantage displays all messages that have the word Program in their text.

Printing system transactions

In maintaining AD/Advantage, you may want to use the following print transactions:

System transaction	See section
Keys and Commands #PFKP	"Keys and commands #PFKP" on page 511.
Personal IDs #IDP	"Personal IDs #IDP" on page 513.
Transaction Definitions #TRNP	"Transaction definitions #TRNP" on page 515.
User Groups #GROUPP	"User groups #GROUPP" on page 517.
User Messages #MSGP	"User messages #MSGP" on page 519.

Keys and commands #PFKP

To print the defaults for keys and commands, use the #PFKP transaction shown below.

NOTE

Throughout this chapter, Cincom refers to keys rather than function keys.

```
                    Print Function Keys and Commands (#PFKP)
===>                                               YYYY.MM.DD HH:MM PC-
-------------------------------------------------------------------------------


Printer-ID............. PRIN

                       Language
                       ----------------
From Key............... _____

To Key................. _____







F1-------F3-------F10------F12------CANCEL------------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description	*Optional.* Mainframe users: Specifies the ID of the printer you want to use.
Default	The printer ID that your system administrator specified in your personal ID
Format	1–16 alphanumeric characters
Consideration	Enter SCREEN in this field to print to the screen.

Pages Printed

> **Description**   *Display*. Specifies the number of pages the printer has printed.

From Key

> **Description**   *Required*. The Language ID of one of the following:
>
> - A single key/command record you want to print.
>
> - The *first* key/command record if you are printing a range of records. When printing a range of records, you must enter the language ID of the *last* record in the To Key field (see below).
>
> **Format**   3 alphanumeric characters

To Key

> **Description**   *Required* if you want to print a range of key records. Specifies the language ID of the last record in the range.
>
> **Format**   3 alphanumeric characters
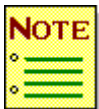
> **NOTE** The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Personal IDs #IDP

To print personal ID records, use the #IDP transaction shown below:

```
                          Print Personal IDs (#IDP)
===>                                            YYYY.MM.DD HH:MM PC-FF
-----------------------------------------------------------------------------


Printer-ID.............  PRIN                  0 Pages printed

                         Personal-ID
                         ---------------
From Key...............  _____

To Key.................  _____






F1-------F3-------F10------F12------CANCEL------------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description	*Optional*. Mainframe users: Specifies the ID of the printer you want to use.
Default	The printer ID that your system administrator specified in your personal ID
Format	1–16 alphanumeric characters
Consideration	Enter SCREEN in this field to print to the screen.

Pages Printed

Description	*Display*. Specifies the number of pages the printer has printed.

From Key

Description	*Required*. The personal ID of one of the following:

♦   A single personal ID record you want to print.

♦   The *first* personal ID record if you want to print a range of records. When printing a range of records, you must enter the personal ID of the *last* record in the To Key field (see below).

Format	1–16 alphanumeric characters

To Key

Description	*Required* if you want to print a range of personal ID records. Specifies the personal ID of the last record in the range.
Format	1–16 alphanumeric characters

Transaction definitions #TRNP

To print transaction definition records, use the #TRNP transaction shown below:

```
                    Print Transaction Definitions (#TRNP)
===>                                            YYYY.MM.DD HH:MM PC-FF
-----------------------------------------------------------------------------


Printer-ID.............  PRIN                    0 Pages printed

                         Trans-ID
                         ---------------
From Key...............  _____

To Key.................  _____


Mode...................  _____  (LIST or DETAIL)




F1-------F3-------F10------F12------CANCEL------------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description	*Optional.* Mainframe users: Specifies the ID of the printer you want to use.
Default	The printer ID that your system administrator specified in your personal ID
Format	1–16 alphanumeric characters
Consideration	Enter SCREEN in this field to print to the screen.

Pages Printed

Description	*Display.* Specifies the number of pages the printer has printed.

From Key

Description	*Required.* The transaction ID of one of the following:

♦ A single transaction definition you want to print.

♦ The *first* transaction definition if you want to print a range of definitions. When printing a range of definitions, you must enter the transaction ID of the *last* record in the To Key field (see below).

Format	1–8 alphanumeric characters

To Key

Description	*Required* if you want to print a range of transaction definitions. Specifies the transaction ID of the last record in the range.
Format	1–8 alphanumeric characters

Mode

Description	*Optional.* Specifies whether you want AD/Advantage to print one transaction definition per line or one transaction definition per page.
Options	Detail Prints one transaction definition per page.
	List Prints one transaction definition per line.

User groups #GROUPP

To print user group records, use the #GROUPP transaction shown below:

```
                      Print User Groups (#GROUPP)
===>                                             YYYY.MM.DD HH:MM PC-FF
-----------------------------------------------------------------------------


Printer-ID.............  PRIN                    0 Pages printed


                        Group-ID
                        ---------------
From Key...............  _____

To Key.................  _____






F1-------F3-------F10------F12------CANCEL------------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT


```

Enter data in the appropriate fields:

Printer-ID

Description	*Optional*. Mainframe users: Specifies the ID of the printer you want to use.
Default	The printer ID that your system administrator specified in your personal ID
Format	1–16 alphanumeric characters
Consideration	Enter SCREEN in this field to print to the screen.

Pages Printed

Description	*Display*. Specifies the number of pages the printer has printed.

From Key

Description	*Required*. The group ID of one of the following:

♦   A single group record you want to print.

♦   The *first* group record if you want to print a range of records. When printing a range of records, you must enter the group ID of the *last* record in the To Key field (see below).

Format	1–8 alphanumeric characters

To Key

Description	*Required* if you want to print a range of group records. Specifies the group ID of the last record in the range.
Format	1–8 alphanumeric characters

User messages #MSGP

To print user messages, use the #MSGP transaction shown below:

```
                        Print User Messages (#MSGP)
===>                                            YYYY.MM.DD HH:MM PC-FF
-----------------------------------------------------------------------------


Printer-ID.............  PRIN                     0 Pages printed

                        Language-ID    Subsystem      Message-No.
                        --------------- --------------- ----------------
From Key...............  _____ _____ _____

To Key.................  _____ _____ _____





F1-------F3-------F10------F12------CANCEL-----------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description	*Optional*. Mainframe users: Specifies the ID of the printer you want to use.
Default	The printer ID that your system administrator specified in your personal ID
Format	1–16 alphanumeric characters
Consideration	Enter SCREEN in this field to print to the screen.

Pages Printed

Description	*Display*. Specifies the number of pages the printer has printed.

From Key

Description   *Required*. Specifies the Language ID, Subsystem, and Message No. of one of the following:

- ♦   A single message you want to print.

- ♦   The *first* message if you want to print a range of messages. When printing a range of messages, you must enter the Language ID, Subsystem, and Message No. of the *last* message in the To Key field (see below).

Format   3 alphanumeric characters for Language ID, Subsystem, and Message No.

NOTE   The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

To Key

Description   *Required* if you want to print a range of messages. Specifies the Language ID, Subsystem, and Message No. of the last messages in the range.

Format   3alphanumeric characters for Language ID, Subsystem, and Message No.

NOTE   The default system language is U.S. English (ENU). Contact your local Cincom representative for other languages supported by AD/Advantage.

Authorizations #AUTHP

To print authorizations, use the #AUTHP transaction as shown in the following example:

```
                        Print User Messages (#AUTHP)
===>                                                  YYYY.MM.DD HH:MM PC-FF
--------------------------------------------------------------------------------


Printer-ID.............  PRIN                          0 Pages printed

                         Trans-ID        Group-ID        Personal-ID.
                         --------------- --------------- ---------------
From Key...............  _____ _____ _____

To Key.................  _____ _____ _____




F1-------F3-------F10------F12------CANCEL-------------------------------------
HELP     EXIT     EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

Printer-ID

Description	*Optional*. Mainframe users: Specifies the ID of the printer you want to use.
Default	The printer ID that your system administrator specified in your personal ID
Format	1–16 alphanumeric characters
Consideration	Enter SCREEN in this field to print to the screen.

Pages Printed

Description	*Display*. Specifies the number of pages the printer has printed.

From Key

    Description   *Required*. The Trans ID, Group ID, and Personal ID of one of the following:

- ♦ A single authorization you want to print.

- ♦ The *first* authorization if you want to print a range of messages. When printing a range of authorizations, you must enter the Trans ID, Group ID, and Personal ID of the *last* authorization in the To Key field (see below).

    Format   3 alphanumeric characters for Trans ID, Group ID, and Personal ID.

To Key

    Description   *Required* if you want to print a range of authorizations. Specifies the Trans ID, Group ID, and Personal ID of the last messages in the range.

    Format   3 alphanumeric characters for Trans ID, Group ID, and Personal ID.

Monitoring transaction usage

The following sections show how to monitor the transaction usage in AD/Advantage. #ACCL1 records the transactions you use in the system, #ACCL2 lists the most commonly used transactions, and #ACCL3 lists hourly transaction usage.

NOTE

The Transaction Journal field setting in #PARM directly affects the #ACCL1, #ACCL2, and #ACCL3 transactions. If the Transaction Journal field is set to Y, transactions will be logged the next time you sign on to the system. If the Transaction Journal field is left blank, the #ACCL1, #ACCL2, and #ACCL3 transactions will not be active; that is, AD/Advantage will not log transactions.

In addition, the Trans Journal field setting in #TRN directly affects the #ACCL1, #ACCL2, and #ACCL3 transactions. If the Trans Journal field is set to Y for a given transaction, that transaction will be logged the next time you sign on to the system. If the Trans Journal field is left blank, AD/Advantage will not monitor that transaction.

Listing the AD/Advantage audit trail #ACCL1

To display a list of the transactions used in the system, use the #ACCL1 transaction shown below:

```
                   Audit Trail Information (#ACCL1)
===>                                           YYYY.MM.DD HH:MM PC-00
-----------------------------------------------------------------------------
        Date     Time      Trans-ID Personal-ID    Terminal Function
        YY/MM/DD HH:MM:SS #ID       ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #MENU     ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #ACCL1    ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #TRN      ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #AUTH     ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #AUTHL    ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #IDL      ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #ID       ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #ACCL1    ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #PARM     ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #AUTH     ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #AUTHL    ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #SUB      ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #SUBL     ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #SUB      ADMIN          PC-00000 ..BEGIN
        YY/MM/DD HH:MM:SS #ACCL1    ADMIN          PC-00000 ..BEGIN
F1-------F3-------F8-------F10------F12------F14------CANCEL------------------
HELP     EXIT     FWD      EXHELP   PROFILE  FIRST    QUIT
```

Enter data in the appropriate fields:

Date

Description	*Optional*. Specifies the date that the transaction was last used.
Format	YY/MM/DD
Consideration	You can overtype the first date in the list and press the Forward key to display the list from a specific date forward.

Time

Description	*Optional*. Specifies the time that the transaction was last used.
Format	HH:MM:SS
Consideration	You can overtype the first time in the list and press the Forward key to display the list from a specific time forward.

Trans-ID

Description	*Display*. Specifies the ID code of the transaction.

Personal-ID

Description	*Display*. Specifies a user's personal identification code.

Terminal

Description	*Display*. Specifies the address of the terminal on which the given transaction was run.

Function

Description	*Display*. Specifies the command executed for a transaction.
Consideration	..BEGIN, which indicates that a transaction was started, is the only function AD/Advantage currently supports.

Listing the most commonly used AD/Advantage transactions #ACCL2

To display a list of the most commonly used transactions, use the #ACCL2 transaction shown below. If you do not specify a beginning and end date for this transaction, #ACCL2 displays only the current day's transactions.

```
                    Most Used AD/A Transactions (#ACCL2)
===>                                              YYYY.MM.DD HH:MM PC-00
-----------------------------------------------------------------------------
Please specify (YY/MM/DD),    From Date.  YY/MM/DD To Date.  YY/MM/DD
-----------------------------------------------------------------------------
S Trans-ID Used
_ #ACCL1    4-----------------------------------------------------------------
_ #ACCL2    3-------------------------------------------------
_ #ID       2------------------------------
_ #AUTH     2------------------------------
_ #AUTHL    2------------------------------
_ #SUB      2------------------------------
_ #MENU     1---------------
_ #TRN      1---------------
_ #IDL      1---------------
_ #PARM     1---------------
_ #SUBL     1---------------
_ #ACCL3    1---------------


F1-------F3-------F7-------F8-------F9-------F10------F12------CANCEL----------
HELP     EXIT     BWD      FWD      PRINT    EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

From Date

Description	*Optional*. Specifies a beginning date for the list of the most commonly used transaction(s).
Default	Current date
Format	YY/MM/DD
Consideration	You can overtype the current date and press ENTER to display the most commonly used transactions from a new start date.

To Date

Description	*Optional.* Specifies an ending date for the list of the most commonly used transactions.
Default	Current date
Format	YY/MM/DD
Consideration	You can overtype the current date and press ENTER to display the most commonly used transactions from a new end date.

S (Selection)

Description	*Optional.* Specifies the type of action you want to perform on a transaction.
Format	1 alphabetic character
Option	S Displays the Edit Transaction Definitions screen (#TRN) with the corresponding transaction. For information on editing transactions with #TRN, refer to the *AD/Advantage Programming*, P39-7001.

Trans-ID

Description	*Display.* Specifies the ID code of the transaction.

Displaying hourly transaction usage #ACCL3

To display a list of hourly transaction usage, use the #ACCL3 transaction shown below:

```
                     AD/A Transactions daily base (#ACCL3)
===>                                            YYYY.MM.DD HH:MM PC-00
------------------------------------------------------------------------------
Please specify (YY/MM/DD),    From Date.  YY/MM/DD To Date.  YY/MM/DD
------------------------------------------------------------------------------
                                **                              | 20
                                **                              |
                                **                              |
                                **                              | 15
                                **                              |
                          ** **                                 |
                          ** **           **                    | 10
                          ** **           **                    |
                 **       ** ** **        **                    |
                 **       ** ** ** ** **                        | 5
              ** **       ** ** ** ** ** **                     |
              ** ** ** ** ** ** ** ** **                        |
              ** ** ** ** ** ** ** ** **                        |
              ** ** ** ** ** ** ** ** **                        |
1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 hours
F1-------F3-------F9-------F10------F12------CANCEL--------------------------
HELP     EXIT     PRINT    EXHELP   PROFILE  QUIT
```

Enter data in the appropriate fields:

From Date

Description   *Optional.* Specifies a beginning date for the list of hourly transaction usage.

Default   Current date

Format   YY/MM/DD

Consideration   You can overtype the current date and press ENTER to display the list of hourly transaction usage.

To Date

Description   *Optional.* Specifies an ending date for the list of hourly transaction usage.

Default   Current date

Format   YY/MM/DD

Consideration   You can overtype the current date and press ENTER to display the list of hourly transaction usage with a different end date.

General consideration

If you do not specify a beginning and end date for this transaction, #ACCL3 displays only the current day's transactions.

Migrating the AD/Advantage dictionaries between systems #MIGDIC

You can migrate the AD/Advantage dictionaries between systems (e.g., between the mainframe and PC, or from test to production) using the #MIGDIC transaction shown below. This transaction generates programs which can then be transferred to the target platform (using the MANTIS Transfer Facility or Universal Export Facility). Once the programs are on the target system, you can run them (in MANTIS) to populate the AD/Advantage dictionaries. For more information on the MANTIS Transfer Facility, mainframe users should refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

NOTE

The #MIGDIC transaction only migrates AD/Advantage entities. It does not migrate MANTIS entities including programs, screens, and views developed in AD/Advantage. To migrate MANTIS programs, screens, and views, use the MANTIS Transfer facility or the Universal Export Facility.

You can group all of your entities by subsystem so that each AD/Advantage entity associated with a subsystem will be migrated. In addition, you can selectively migrate entities or designate only the changed entities to be migrated.

To generate the programs for migration, press the Generate key or type
GEN at the command line and press ENTER:

```
                        Migrate Dictionary (#MIGDIC)
===>                                                  YYYY.MM.DD HH:MM PC-00
----------------------------------------------------------------------------
Migration by Subsystem:    ___
                        Programs to be created
   Transactions......  _  LOAD_TRAN_____
   Help Text.........  _  LOAD_HELP_____
   Messages..........  _  LOAD_MSG_____
   Domains...........  _  LOAD_DOMAIN_____
   Domain Help.......  _  LOAD_DOMAINHELP_____
   Menus.............  _  LOAD_MENU_____
Subsystem as Selection is only used for above Entities
----------------------------------------------------------------------------
   Subsystem.........  _  LOAD_SUBSYSTEM_____
   Groups............  _  LOAD_GROUP_____
   Personal IDs......  _  LOAD_ID_____




F1-------F2-------F3-------F10------F12------F13------CANCEL------------------
HELP     EDIT     EXIT     EXHELP   PROFILE  GEN      QUIT
```

Enter data in the appropriate fields:

Migration by Subsystem

Description   *Required.* Specifies the subsystem identification code.

Format   3 alphanumeric characters

S (Selection) (field untitled on screen)

Description   *Optional.* Specifies which entities you want to migrate. Enter a value in this column for each entity type you want to migrate: transactions, help text, messages, domains, domain help, and menus.

Default   (blank)

Format   1 alphabetic character

Options   S Select entities to be migrated. If you select this option, the system prompts you to designate the entities you want to migrate as shown below:

```
--------------------------------------
 Select transactions to migrate:
--------------------------------------
 _ #ACCL1
 _ #ACCL2
 _ #ACCL3
 _ #ADMIN
--------------------------------------
       F3=EXIT F7=BWD F8=FWD
--------------------------------------
```

Y Migrate all entities.

C Migrate only changed entities.

(blank)   Do not migrate any entities.

Programs to be created

Description   *Optional.* Specifies the name of the program(s) containing the entities to be migrated.

Format   1–32 alphabetic characters

Considerations

♦   The entities for the last three programs to be created, subsystem, groups, and personal IDs, cannot be migrated by subsystem since you do not assign these entities to a subsystem.

♦   When the program generated would exceed the size limits of mainframe MANTIS, additional programs will be generated with a suffix of 2, 3, 4, and so on.

Changing the special character for system transactions #UPDCHAR

As supplied, all AD/Advantage system transactions begin with the special character # (hash). You can change the system special character using the #UPDCHAR transaction, as shown below:

NOTE

Before running this program, perform the following:

1. Ensure that no one is logged onto the system.

2. Make a backup copy of the Ad/Advantage cluster.

```
                  Update the Special System Character (#UPDCHAR)
===>                                             1994.06.28 13:59 PC-
---------------------------------------------------------------------------

   Run this Program only when nobody is logged on to the System


The Current Special Character is #

The New Special Character is.... _


This Program changes all System Entities in the Dictionary containing
this character.

Before this Program is run, a Backup Copy of the AD/Advantage Cluster is
recommended, in case an Entity could not be updated.

Press the Generate Key to start the Process.

F1-------F3-------F10------F12------F13------CANCEL--------------------------
HELP     EXIT     EXHELP   PROFILE  GEN      QUIT
```

Enter data in the appropriate fields:

The Current Special Character is #

Description   *Display*. Specifies the current special system character.

Default   hash character (#)

The New Special Character is

Description   *Display*. Specifies the current special system character.

Using templates

Understanding the template principle

NOTE
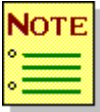
Warning: The templates installed with AD/Advantage are MANTIS programs capable of being modified by the MANTIS MASTER user. Only the AD/Advantage system administrator should be authorized to change a template or create a new one. By doing this, you will ensure that applications developed from the same template are consistent.

AD/Advantage uses templates as a standard means of generating programs. Since programs typically have different standards and different processing requirements, it is difficult for a generator to gauge a given program's requirements. This method requires a generator to have built-in logic. Templates, on the other hand, force the logic to reside within the program itself. The template contains standardized portions of a program so that the generator can correctly read this information and generate the program appropriately.

The following figure illustrates that a template acts as a filter for the #TRN entries within AD/Advantage. These entries are translated into keywords for the generator. Keywords serve as the building blocks for the program code, a means for the generator to fill in program-specific data within the standard program code. The #TRN entries (especially the type of transaction and the database used) are input to the keywords in the template. In the generation process, the generator reads the keywords and puts blocks of code behind them to populate the template. Once the template is populated, it is finally processed into the completed program.
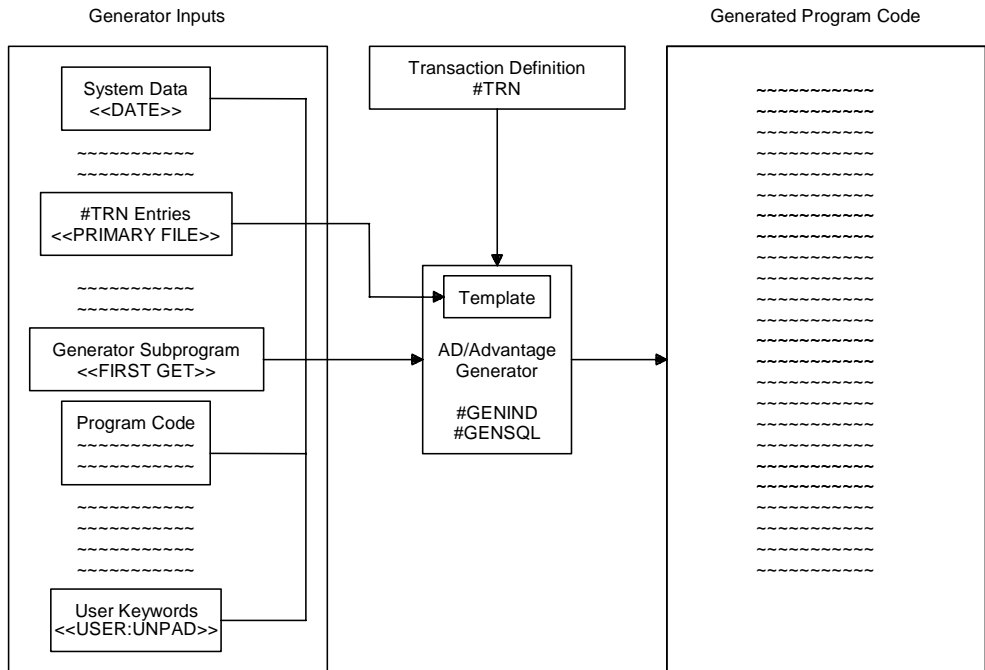
There are two generators within AD/Advantage. The first generator is designed to process nonSQL database transactions. This generator is called by the #GENIND transaction. The other generator, called by the #GENSQL transaction, is used to process SQL database transactions. When you first save a transaction, AD/Advantage automatically determines which generator to use based on the File Type field entry within #TRN.

File types of INT, EXT, DL/I, PDM, RDM, and INF use the #GENIND generator. File types of SQL use the #GENSQL generator. These transactions will be automatically activated when you generate the transaction within the transaction definition itself. Otherwise, you can generate the transaction by choosing the one of the generators and entering a transaction ID to generate. For more information about #GENIND and GENSQL, refer to the *AD/Advantage Programming*, P39-7001.

Your entries within the Records on Screen, the Secondary File, and File Type fields in #TRN determine which template AD/Advantage uses to build a program. In addition, the Primary File and Secondary File fields determine whether the transaction uses single, list, or mixed record processing.

The application development life cycle consists of the following processes:

♦   Once you have saved the transaction definition, the entries in #TRN determine which template AD/Advantage uses to develop the application.

♦   At generation, the system processes the template line-by-line, including user and system keywords.

♦   After the template has been processed completely, the system builds the outputted program.

♦   After the program has been generated, it then becomes the program called by the transaction defined in #TRN.

What is a template?

A template is a MANTIS program. You can add, modify, and delete templates in the same way that you would any other MANTIS program. All templates are stored in the MANTIS MASTER user and use the ADV_TMP_ prefix.

Understanding the association between templates and the generator

The entries within #TRN define which template the generator should use to build a given program. Specifically, the File Type and Records on Screen fields determine which template the generator will use to build the program.

For example, if a developer defines a transaction in #TRN with a PDM file type, a primary file, and the records on screens as "1," the template used to generate the program will be ADV_TMP_SINGLE_PDM. Note that the templates in AD/Advantage all begin with ADV_TMP_ as the prefix.

Example. If a developer defines a transaction with more than one record on screen for an SQL database, the template format would be ADV_TMP_LIST_*database name*. The specific database name would be determined from the Database Type field in #PARM. In addition, if the secondary file field is filled in for a PDM file, the template ADV_TMP_MIXED_PDM will be used. Currently, mixed transactions are only supported for PDM, DLI, and Indexed records (VSAM, LEASY, and RMS).
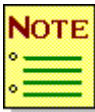
> **NOTE**
>
> A template to support MIXED SQL applications is not available at this time.

Activating the generator

The AD/Advantage generator is activated based on keywords, which take their cue from the specific entries a developer supplies in a transaction definition. The keywords display in the format << keyword >> within a template. The keywords provide recognizable points for the generator behind which the generator can populate MANTIS code. After the template's keywords have been filled in with code (that is, it has been populated), the generator then processes the template to form the program defined in the transaction.

Using supplied templates

At installation, AD/Advantage loads pre-defined templates into the MANTIS cluster. For a list of the supplied templates for each of the file types AD/Advantage supports, see the "Supplied templates" on page 545.

NOTE
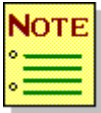
Before you initiate any changes to the supplied templates, we recommend that you make a backup copy. You can perform a backup of the templates using the MANTIS Transfer Facility. For more information on this facility, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

Since a template is a MANTIS program, you can access a template and change it using the Program Design Facility within MANTIS MASTER User. For more information on this facility, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

Creating new templates

To create a new template, perform the following steps:

1. Create the new template in MANTIS (that is, create a MANTIS program in the MASTER User). For more information on the Program Design Facility within MANTIS, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013. For example, the new template could be called NEWTEMP.

2. Create a new transaction definition (in #TRN). For this example, we will create a transaction definition called NEWGEN. In the User Data field, enter the name of the MANTIS program you created in the first step. This indicates to AD/Advantage that you do not want to use the default #GENIND or #GENSQL generators. Rather, when a developer wants to use the NEWTEMP template, the developer can enter NEWTEMP in the User Data field of their transaction definitions.

```
                    Edit Transaction Definitions (#TRN)
===>                                             YYYY.MM.DD HH:MM PC-00
--------------------------------------------------------------------------------
Trans-ID........  NEWGEN__ Desc New AD/A GENERATOR_____ ENU
Subsystem.......  ADV    Program MASTER:NEWGEN_____    Type...  4
User Data.......  NEWTEMP_____
SQL-Options.....  _
Trans Journal...  _  System-Language..  _ Disabled..  _    Disable Tran-Path..  _
-------------------------------- Commands --------------------------------
     General Get-Back..  _ Get-Forw..  _ Confirm...  _ Print.....  _ Search...  _
             First.....  _ Last......  _ Left......  _ Right.....  _ Clear Scr  _
      Single Insert....  _ Update....  _ Delete....  _ Generate..  _ Execute..  _
        List Insert....  _ Update....  _ Delete....  _ Select....  _ -> _____
       Mixed Previous..  _ Next......  _ Top.......  _ Bottom....  _
        User Cmd1......  _ Cmd2......  _ Cmd3......  _ Cmd4......  _ Cmd5.....  _
------------------------- Generation-Options ---------------------------
Screen..........  _____
File Type.......  ___
Primary File....  _____ Records on Screen..  0
Secondary File..  _____ Records on Screen..  0
F1-------F2-------F3-------F4-------F5-------F6-------F8-------F10------F11----
HELP    EDIT    EXIT    INS     UPD     DEL     FWD     EXHELP   CLEAR
```

For more information on creating transactions using #TRN, refer to the *AD/Advantage Programming*, P39-7001.

3. You can now use the new template for generating applications.

Using keywords to customize templates

The keywords within a template form the building blocks for the program generation process.

There are generally four forms of keywords: system, transaction, subprogram, and user keywords. An example of a system keyword is the <<DATE>> keyword which takes the date from the system. A transaction keyword would be the file type entry from the transaction definition which is the <PRIMARYFILE>> keyword. The <<FIRST GET>> keyword is an example of a generator subprogram which takes entries from the SYST parameter and places them into key fields in the primary file. Finally, a user-defined keyword is one which passes control from the generator to a MANTIS routine.
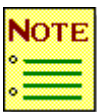
See "Supplied components" on page 545 for a list of supplied keywords.

User-defined keywords

User-defined keywords enable you to pass control of the generation process to a user-defined routine. You specify user-defined keywords by prefixing the keyword with USER: that is, <<USER:keyword>>. The program ADV_USR_GENERATION in the MANTIS MASTER user is an example program you can use to place keywords in a program. An example of a PAD/UNPAD routine for screen fields is supplied with this program. For more information on the PAD/UNPAD routine, see the following section.

Example of a PAD/UNPAD routine for screen fields

The ADV_USR_GENERATION program in the MANTIS MASTER user contains instructions on how to insert a PAD/UNPAD routine into a template. You can also add this routine to other templates.

If you want to add a PAD/UNPAD routine to the ADV_TMP_SINGLE template, you must first fetch this program in MANTIS. After you have fetched it, you can list it from line 1100, as shown below:

```
                         PROGRAM ==> ADV_TMP_SINGLE

1110 EXIT
1120 |----------------------------------------------------------------
1130 ENTRY POST_DELETE
1140 EXIT
1150 |----------------------------------------------------------------
1160 ENTRY PRE_CONVERSE
1170 EXIT
1180 |----------------------------------------------------------------
1190 ENTRY POST_CONVERSE
1200 EXIT
1210 |--------------------------------FIELD-LEVEL HELP-----------
1220 ENTRY CMD_HELP
1230 .SYSF=""
1240 .WHEN CURSOR(SYSTITLE,COMMAND_LINE)
1250 ..SYSF="COMMAND_LINE"
1260 ..DO SYS_HELP(SYST,MAP,SYSF,COMMAND_LINE,COMMAND)
1270 .WHEN CURSOR(SYSTITLE,SYSDATE)
1280 ..SYSF="SYSDATE"
1290 ..DO SYS_HELP(SYST,MAP,SYSF,SYSDATE,COMMAND)
```

The PAD/UNPAD routine is designed to pad/unpad all screen fields with the underline character. The PAD portion of the routine must take place before the screen is conversed, while the UNPAD portion of the routine takes place after the screen has been conversed. The following example illustrates that you must insert the <<USER:PAD>> keyword after the PRE_CONVERSE, and you must insert the <<USER:UNPAD>> keyword after the POST_CONVERSE.

```
                         PROGRAM ==> ADV_TMP_SINGLE

1110 EXIT
1120 |--------------------------------------------------------------
1130 ENTRY POST_DELETE
1140 EXIT
1150 |--------------------------------------------------------------
1160 ENTRY PRE_CONVERSE
1165 .|<<USER:PAD>>
1170 EXIT
1180 |--------------------------------------------------------------
1190 ENTRY POST_CONVERSE
1195 .|<<USER:UNPAD>>
1200 EXIT
1210 |--------------------------------FIELD-LEVEL HELP-----------
1220 ENTRY CMD_HELP
1230 .SYSF=""
1240 .WHEN CURSOR(SYSTITLE,COMMAND_LINE)
1250 ..SYSF="COMMAND_LINE"
1260 ..DO SYS_HELP(SYST,MAP,SYSF,COMMAND_LINE,COMMAND)
1270 .WHEN CURSOR(SYSTITLE,SYSDATE)
1280 ..SYSF="SYSDATE"
1290 ..DO SYS_HELP(SYST,MAP,SYSF,SYSDATE,COMMAND)
```

After adding these two lines and saving the ADV_TMP_SINGLE template, transactions generated using this template will contain underlined fields in their screens.

Recovering an original template

You can recover an original template if you make a backup copy using the MANTIS Transfer Facility. For more information on this facility, refer to *MANTIS Program Design and Editing, OS/390, VSE/ESA*, P39-5013.

Supplied components

Supplied templates

The following table lists the supplied templates for each of the file types AD/Advantage supports:

File type	Program name	Description
DB2	ADV_TMP_SINGLE_DB2	Single, DB2
	ADV_TMP_LIST_DB2	List, DB2
**	ADV_TMP_MIXED_DB2	Mixed, DB2
DL/I	ADV_TMP_SINGLE_DLI	Single, DL/I
	ADV_TMP_LIST_DLI	List, DL/I
**	ADV_TMP_MIXED_DLI	Mixed, DLI
Indexed file (VSAM, RMS, C-ISAM, MISAM, internal files)	ADV_TMP_SINGLE	Single
	ADV_TMP_LIST	List
	ADV_TMP_MIXED	Mixed
Interface	ADV_TMP_SINGLE_INF	Single, interface
	ADV_TMP_LIST_INF	List, interface

File type	Program name	Description
RDB	ADV_TMP_SINGLE_RDB	Single, RDB
	ADV_TMP_LIST_RDB	List, RDB
ORACLE	ADV_TMP_SINGLE_ORACLE	Single, Oracle
	ADV_TMP_LIST_ORACLE	List, Oracle
**	ADV_TMP_MIXED_ORACLE	Mixed, Oracle
OS/2 DBM	ADV_TMP_SINGLE_DBM	Single, DBM
DB2/2	ADV_TMP_LIST_DBM	List, DBM
SUPRA PDM	ADV_TMP_SINGLE_PDM	Single, PDM
	ADV_TMP_LIST_PDM	List, PDM
	ADV_TMP_MIXED_PDM	Mixed, PDM
SUPRA RDM	ADV_TMP_SINGLE_RDM	Single, RDM
	ADV_TMP_LIST_RDM	List, RDM
SUPRA SQL	ADV_TMP_ACCESS_SUPRA	Access only, SUPRA SQL
	ADV_TMP_SINGLE_SUPRA	Single, SUPRA
	ADV_TMP_LIST_SUPRA	List, SUPRA
	ADV_TMP_MIXED_SUPRA	Mixed
**	ADV_TMP_MIXED_SUPRA	Mixed, SUPRA
SUPRA SQL extensions	ADV_TMP_SINGLE_SUPRA_EXT	Single, SUPRA extension
	ADV_TMP_LIST_SUPRA_EXT	List, SUPRA extension
	ADV_TMP_MIXED_SUPRA_EXT	Mixed, SUPRA extension
**	ADV_TMP_MIXED_SUPRA_EXT	Mixed, SUPRA extensions
Transaction management	ADV_TMP_TRN_MGMT	

** Indicates a new template

Supplied keywords

The following is a list of keywords that come supplied with AD/Advantage. You can create your own keywords using the <<USER:keyword>> keyword. See "User-defined keywords" on page 542 for more information.

Keyword	Description
<<AUTHOR>>	The Personal ID of the user who initiated the generation process.
<<CHECK FACILITY>>	Is replaced by Calls to the Validation Handler. One External Do for each screen field is generated.
<<CLEAR LINE>>	Clears one line in a List processing screen.
<<COMPARE KEY>>	Is used in Mixed processing applications to determine if the keys of primary and secondary files match.
<<DATE>>	The current date in the format YY/MM/DD.
<<DESCRIPTION>>	The description as defined in #TRN.
<<DLI *>>	DLI processing keywords.
<<FIRST GET>>	Moves values from SYST which had been handed over to the application into the corresponding key fields of the primary file.
<<HELP FACILITY>>	Is replaced by Calls to the Help Handler. One External Do for each screen field is generated.
<<INF *>>	Interface processing keywords.
<<KEYS IN COMMAND_LINE>>	Is used in a List processing application after a user has selected a record for processing. The keys of this record are set up in the command-line prefixed by the receiving transaction as defined in #TRN.
<<MODIFIED GET>>	Builds an IF MODIFIED Statement for each key field in the screen to determine if a keyed or sequential GET (Internal or External File Views) is to be used and additionally creates the GET statements.

Keyword	Description
<<MODIFIED KEY?>>	Builds a IF MODIFIED Statement for each key field in the screen to determine if a keyed or sequential SELECT is to be used.
<<MOVES IN>>	Create the Moves from a screen into file variables in a list or mixed processing application.
<<MOVES OUT>>	Create the Moves from a file view into screen variables in a list or mixed processing application.
<<PDM *>>	PDM processing keywords.
<<POSITION REC2>>	Creates a GET statement to position the secondary file according to the keys of the primary file. Only used in mixed type applications.
<<PRIMARYFILE>>	The name of the primary file view or table as defined in transaction definition (#TRN).
<<PRIMARY KEY>>	The keys of the primary file separated by comma.
<<PRIMARYPSW>>	The name of the primary file view password as defined in transaction definition (#TRN).
<<PROTECT SCREEN>>	Protects all screen fields except of the key fields. The generated routine is called only if the transaction is in READONLY mode.
<<SCREEN>>)	The name of the screen as defined in transaction definition (#TRN).
<<SECONDARYFILE>>	The name of the secondary file view as defined in transaction definition (#TRN).
<<SECONDARY KEY>>	The keys of the secondary file separated by comma.
<<SECONDARYPSW>>	The name of the secondary file view password as defined in transaction definition (#TRN).
<<SQL DELETE>>	Creates a SQL DELETE statement according to the fields selected upon generation time.
<<SQL FETCH LAST>>	Creates a SQL FETCH LAST statement according to the fields selected upon generation time.
<<SQL FETCH NEXT>>	Creates a SQL FETCH NEXT statement according to the fields selected upon generation time.

Keyword	Description
<<SQL FETCH POS>>	Creates a SQL FETCH POS statement according to the fields selected upon generation time.
<<SQL FIRST GET>>	Creates a SQL SELECT statement without where clause according to the fields selected upon generation time.
<<SQL INSERT>>	Creates a SQL INSERT statement according to the fields selected upon generation time.
<<SQL INTEGRITY>>	For SQL Integrity processing.
<<SQL SELECT BACKWARD>>	Creates a SQL SELECT PREVIOUS statement according to the fields selected upon generation time.
<<SQL SELECT DIRECT>>	Creates a SQL SELECT DIRECT statement according to the fields selected upon generation time.
<<SQL SELECT FIRST>>	Creates a SQL SELECT FIRST statement according to the fields selected upon generation time.
<<SQL SELECT FORWARD>>	Creates a SQL SELECT NEXT statement according to the fields selected upon generation time.
<<SQL SELECT LAST>>	Creates a SQL SELECT LAST statement according to the fields selected upon generation time.
<<SQL SELECT NEXT>>	Creates a SQL SELECT NEXT statement according to the fields selected upon generation time.
<<SQL SELECT PREVIOUS>>	Creates a SQL Delete statement according to the fields selected upon generation time.
<<SQL SELECT SEARCH>>	Creates a SQL SELECT with WHERE clause of the current key according to the fields selected upon generation time.
<<SQL SELECT>>	Creates a SQL SELECT statement according to the fields selected upon generation time.
<<SQL UPDATE>>	Creates a SQL UPDATE statement according to the fields selected upon generation time.

Keyword	Description
<<SQL WORKING STORAGE>>	Creates all host variables according to the fields selected upon generation time.
<<SQL-PSW>>	The password of the connected SQL User
<<SQL-TABLE>>	The name of the table to generate SQL statements for.
<<SQL-TYPE>>	The database type: SUPRA, DBM, DB2, and so on.
<<SQL-USER>>	The name of the connected SQL User.
<<TIME>>	The current time.
<<TRANSID>>	The Transaction Identifier to generate the program for.
<<USER>>	The MANTIS user where the generation was initiated.
<<USER:keyword>>	Program MASTER:ADV_USR_GENERATION is called. The user can generate its own code. Examples are <<USER:PAD>> <<USER:UNPAD>>
<<USER:PAD>>	Example: All screen fields are padded with Underline char.
<<USER:UNPAD>>	Example: All screen fields are unpadded with Underline char.
<<VALIDATE KEY>>	Is used in mixed processing applications to determine if the keys of the primary and secondary file match.

Supplied transactions

The following table lists all AD/Advantage transactions alphabetically.
For each transaction, the table provides:

♦ Transaction ID.

♦ Name of the program that the transaction defines.

♦ Transaction description.

♦ Optional parameters that you can pass to the transaction.

♦ The section where you can find complete information about the transaction.

Trans-ID	Program name	Description	Optional parameters	See section
#ACCL1	VPF:ADV_LST_ACC1	Audit Trail Information		"Listing the AD/Advantage audit trail #ACCL1" on page 525
#ACCL2	VPF:ADV_LST_ACC2	Most Used AD/A Transactions		"Listing the most commonly used AD/Advantage transactions #ACCL2" on page 527
#ACCL3	VPF:ADV_LST_ACC3	AD/A Transactions daily base		"Displaying hourly transaction usage #ACCL3" on page 529
#ADMIN	Administration Functions			
#AUTH	VPF:ADV_EDT_AUTH	Edit Transaction Authorizations	*trans-id*	"Defining transaction authorization #AUTH" on page 478

Trans-ID	Program name	Description	Optional parameters	See section
#AUTHL	VPF:ADV_LST_AUTH	List Transaction Authorizations	*trans-id*	"Authorizations #AUTHL" on page 496
#AUTHP	VPF:ADV_PRN_AUTH	Print Authorizations	*	
#CEF	VPF:ADOP_PRGM_MENU	Component Engineering Facility		*
#CINT	CASE:CASE_UPLOAD_MENU	Case Integration		*
#DATAL	VPF:ADV_LST_DATA	List Data Views in the Scratchpad	*entity-name*	*
#DDEF	VPF:ADV_EDT_DOMDEF	Edit Domain Definitions	*domain-id*	*
#DDEFL	VPF:ADV_LST_DOMDEF	List Domain Definitions	*domain-id*	*
#DEBUG	VPF:ADV_EDT_DEBUG	Debug Program Parameters		"System and user parameters #DEBUG" on page 503
#DEF	VPF:ADV_EDT_DEFAULTS	Edit Generation Defaults		"Setting application generation defaults #DEF" on page 454
#DHLP	VPF:ADV_EDT_DOMHLP	Edit Domain Help Information	*domain-id*, *language-id*	*
#DHLPL	VPF:ADV_LST_DOMHLP	List Domain Help Information	*domain-id*, *language-id*	*
#DIR	CONTROL:DIRECTORY	List/Print Mantis Directory		*
#DLI	CONTROL:DLI_PROFILE	Edit DLI Views		*
#DPRO	CONTROL:DISPLAY	Display a Prompter		*
#EDIT	Edit Functions			
#EINT	CASE:EXC_MENU	Excelerator Integration		*
#ET	CASE:CASE_SELECT	Entity Transformers		*

Trans-ID	Program name	Description	Optional parameters	See section
#ETI	CASE:CASE_INITIALIZE	Initialize Scratchpad		*
#EXT	CONTROL:ACCESS	Edit External Files		*
#EXTL	VPF:ADV_LST_EXT	List External Files	*file-name*	*
#GEN	VPF:ADV_MNU	Generation Functions		
#GENDEF	VPF:ADV_GNT_SCREEN _DEFAULTS	Generate Default Values for Screens	*screen-name*	*
#GENIND	VPF:ADV_GNT_INDEX	Generate a Program for Index files	*trans-id*	*
#GENSQL	VPF:ADV_GNT_SQL	Generate a SQL Program	*trans-id*	*
#GROUP	VPF:ADV_EDT_GROUP	Edit User Groups	*group-id*	"Setting up user groups #GROUP" on page 471
#GROUPL	VPF:ADV_LST_GROUP	List User Groups	*group-id*	"User groups #GROUPL" on page 504
#GROUPP	VPF:ADV_PRN_GROUP	Print User Groups		"User groups #GROUPP" on page 517
#HLP	VPF:ADV_EDT_HELP	Edit Transaction Help	*language-id*, *trans-id*	*
#HLPL	VPF:ADV_LST_HELP	List Transaction Help	*language-id*, *trans-id*	*
#HLPP	VPF:ADV_PRN_HELP	Print Transaction Help		*
#HOME	VPF:ADV_SYS_HOME	Call Users Start Transaction		*
#ID	VPF:ADV_EDT_USER	Edit Personal IDs	*personal-id*	"Setting up personal IDs #ID" on page 464

Trans-ID	Program name	Description	Optional parameters	See section
#IDL	VPF:ADV_LST_USER	List Personal IDs	*user-id*	"Personal IDs #IDL" on page 499
#IDP	VPF:ADV_PRN_USER	Print Personal IDs		"Personal IDs #IDP" on page 513
#IINT	CASE:IEW_MENU	IEW/ADW Integration		*
#INF	CONTROL:INTERFACE	Edit Interfaces		*
#INFL	VPF:ADV_LST_IF	List Interfaces	*interface-name*	*
#INT	CONTROL:SETS	Edit Internal Files		*
#INTL	VPF:ADV_LST_INT	List Internal Files	*file-name*	*
#LANG	CONTROL:SHOW_ LANGUAGE_CODES	Display Language Codes		
#LIST	VPF:ADV_MNU	List Functions		
#MENU	VPF:ADV_EDT_MENU	Edit Menu Definitions	*menu-id*	*
#MENUL	VPF:ADV_LST_MENU	List Menu Definitions	*menu-id*	*
#MENUP	VPF:ADV_PRN_MENU	Print Menu Definitions		*
#MIG	CONTROL:MIGRATE	Migrate		*
#MIGDIC	VPF:ADV_MIG_DICT	Migrate Dictionary		"Migrating the AD/Advantage dictionaries between systems #MIGDIC" on page 531
#MSG	VPF:ADV_EDT_MESS	Edit User Messages	*language-id*, *subsystem-id*, *message-no*	"Setting up user messages #MSG" on page 475

Trans-ID	Program name	Description	Optional parameters	See section
#MSGL	VPF:ADV_LST_MESS	List User Messages	*language-id, subsystem-id, message-no*	User groups #GROUPL" on page 504
#MSGP	VPF:ADV_PRN_MESS	Print User Messages		"User messages #MSGP" on page 519
#MSTART	MASTER:START_FACILITY	Mantis Start Facility		*
#MSYS	VPF:ADV_MNU	Main Selection for Administrator		
#OPTIONS	VPF:ADV_MNU	Options		
#PARM	VPF:ADV_EDT_PARM	Edit System Parameters		"Setting system parameters #PARM" on page 443
#PFK	VPF:ADV_EDT_PFK	Edit Function-Keys and Commands	*language-id*	"Setting keys and commands #PFK" on page 461
#PFKP	VPF:ADV_PRN_PFK	Print Keys and Commands		"Keys and commands #PFKP" on page 511
#PRG	CONTROL:PROGRAM_ DESIGN	Edit Programs		*
#PRGL	VPF:ADV_LST_PRG	List Programs	*program-name*	*
#PRINT	VPF:ADV_MNU	Print Functions		
#PRN	CONTROL:MPFMMENU	Print Facility		*
#PRO	CONTROL:PROMPTER	Edit Prompters		*
#PTYPE	VPF:ADV_EDT_PTYPE	Edit Prototype Definitions	*trans-id*	*
#QCOLUMN	VPF:ADV_TLS_COLUMN	Column List	*column-name*	*
#QDB	VPF:ADV_TLS:STGROUP	SQL Database List	*database-name*	*
#QDOM	VPF:ADV_TLS_DOMAIN	Domain Report	*domain-name*	*
#QDOML	VPF:ADV_TLS_DOMLIST	Domain List	*domain-name*	*

Trans-ID	Program name	Description	Optional parameters	See section
#QDOMREF	VPF:ADV_TLS_DOMREF	Domain References	*domain-name*	*
#QFK	VPF:ADV_TLS_LINKS	Secondary Links	*table-name*, (creator)	*
#QFKL	VPF:ADV_TLS_LINKLIST	Foreign Key List	*table-name*, (creator)	*
#QFKP	VPF:ADV_TLS_LINKP	Primary Links	*table-name*, (creator)	*
#QINDEX	VPF:ADV_TLS_INDEX	Index Display	*table-name*, creator	*
#QINDEXL	VPF:ADV_TLS_INDEXLIST	Index List	*table-name*	*
#QISTAT	VPF:ADV_TLS_ISTAT	Index Statistics	*index-name*, (*table-name*)	*
#QPLAN	VPF:ADV_TLS_PLAN	DB2 Plans	*table-name*, (creator)	*
#QPLAND	VPF:ADV_TLS_PLANDEP	Plan Dependencies	*plan-name*, (creator)	*
#QRW	MASTER:RUN_SPECTRA	Query Report Writer		*
#QSTATS	VPF:ADV_TLS_STATS	Table Statistics	*table-name*, (creator)	*
#QSTGRP	VPF:ADV_TLS_STGROUP	SQL Storage Group List	*storage-group*	*
#QSYN	VPF:ADV_TLS_SYNONYM	Synonym List	*synonym-name*	*
#QTABLE	VPF:ADV_TLS_TABLE	Table and View List	*table-name*	*
#QUSER	VPF:ADV_TLS_USER	User Display	*user-name*	*
#QUSERL	VPF:ADV_TLS_USERLIST	User List	*user-name*	*
#QVER	VPF:ADV_TLS_VERSION	Display Supra Version		*
#QVIEW	VPF:ADV_TLS_VIEW	View Definition	*view-name*, (creator)	*
#QVOL	VPF:ADV_TLS_VOLUME	SQL Volume List	*volume-ID*	*
#REL	CASE:CASE_SHOW_VERSIONS	Show Release Details		*

Trans-ID	Program name	Description	Optional parameters	See section
#REPORTS	VPF:ADV_MNU	Reports		
#RUN	CONTROL:RUN_A_ PROGRAM	Run a Program		*
#SCR	CONTROL:SCREEN_ DESIGN	Edit Screens		*
#SCRL	VPF:ADV_LST_SCR	List Screens	*screen-name*	*
#SIGNON	VPF:ADV_SYS_SWITCH	Sign On to AD/Advantage	*user-id*, *password*, *transid.key1.keyn*	*
#SUB	VPF:ADV_EDT_SUBSYST	Edit Subsystems	*subsystem-id*	"Setting up subsystems #SUB" on page 473
#SUBL	VPF:ADV_LST_SUBSYST	List Subsystems	*subsystem-id*	"Subsystems #SUBL" on page 501
#SYNONYM	VPF:ADV_EDT_SYNONYM	Edit Synonyms	*synonym-id*	*
#SYS	VPF:ADV_MNU	Main Selection for Developer		*
#TEXTL	VPF:ADV_LST_TEXT	List Text in the Scratchpad	*entity-name*	*
#TOT	CONTROL:ULTRA_VIEW	Edit Total Views		*
#TRN	VPF:ADV_EDT_TRAN	Edit Transaction Definitions	*trans-id*	*
#TRNL	VPF:ADV_LST_TRAN	List Transaction Definitions	*trans-id*	*
#TRNP	VPF:ADV_PRN_TRAN	Print Transaction Definitions		"Transaction definitions #TRNP" on page 515
#UEF	CONTROL:EXP_MAIN_SCB	Universal Export Facility		*

Trans-Id	Program name	Description	Optional parameters	See section
#UGROUP	VPF:ADV_LST_UGROUP	List Personal-IDs contained in a Group		*
#UMENU	VPF:ADV_MNU	User menu		*
#UPDCHAR	VPF:ADV_SYS_CHANGE_CHAR	Change system character		"Changing the special character for system transactions #UPDCHAR" on page 535
#UTILITY	VPF:ADV_MNU	Utilities		
#XFR	CONTROL:TRANSFER	Transfer Facility		*
#XREF	CSI_XREF:MENU	Cross Reference Facility		*

* Refer to *AD/Advantage Programming*, P39-7001, for information.

Entities residing in the MASTER User

	Program name	Description
Programs	ADV_ANALYZE_LOG	Print AD/Advantage accounting log
	ADV_USR_GENERATION	User keywords for the generator
	ADV_USR_LANGUAGE	Dynamically set user's language
	ADV_USR_VALIDATION	Example for a user validation routine which is specified with the #DDEF transaction
	ADV_TMP_*	All generator templates
	ADV_SIGN_ON	Sign-on program
	ADV_SQL_CONNECT	Example SQL connect program
	ADV_SYS_EXTERNAL	External program handler which chains to existing MANTIS applications or performs 3GL programs
	ADV_SYS_REFINT	Referential integrity programs
	ADV_SYS_TERMINATE	Routine called when AD/Advantage is terminated
Screens	ADV_SIGN_ON	AD/Advantage sign-on screen
	ADV_HEADER	Standard user header screen
	ADV_TRAILER	Standard user trailer screen
External File Views	ADV_ACCOUNTING	Accounting file for AD/Advantage transactions

8

MANTIS Code Patch Utility (MCPU)

MANTIS Code Patch Utility (MCPU) allows the Master User to create, maintain, and apply patches (corrections) to MANTIS programs and other systems written in MANTIS code. In addition, MCPU allows you to view the Cincom Patch Log, which lists all patches that have been applied to Cincom programs since the current release of the product was installed. You can also view and maintain the Production Patch Log, which lists the patches that have been applied to production programs.

A patch can be defined for MANTIS programs in CONTROL, MASTER, or user libraries, and solve a problem that can affect one or more programs.

A Cincom representative either dictates the patch definition to you over the telephone or mails the patch description to you. In either case, you use MCPU to enter the patch.

MANTIS code patches for the MANTIS product are no longer distributed via APMS. Instead, periodic maintenance releases are produced with patches rolled into the product. "Installing the patch file" on page 562 concerning patch file installation is included for other products written in MANTIS code that may distribute product maintenance via APMS.

If your transfer cluster is defined as REPRO REUSE, you can use an IDCAMS backup to keep a copy of your current cluster, then transfer in the patch file. If your transfer cluster is not defined as REPRO REUSE, you must delete your current transfer cluster, then redefine it so you can load in the transfer cluster containing the patch file from the APMS tape.

This chapter provides instructions for installing the patch file and using MCPU. MVS and VSE versions of the installation instructions appear separately.

Installing the patch file

To install the patch file, follow these steps:

1. Back up your current transfer cluster.

2. Replace your current transfer cluster with the cluster on the APMS tape supplied by Cincom.

3. Transfer in the patch file from the supplied bin.

4. Restore the transfer cluster backup created in the first step to your current transfer cluster.

For explanations on how to install the patch file for the MVS, VSE, and VM/CMS environments, see "MVS patch file installation" on page 562, "VSE patch file installation" on page 566, and "VM/CMS patch file installation" on page 569.

MVS patch file installation

Follow these steps to install the patch file in an MVS environment:

1. Back up your current transfer cluster by executing the following JCL. The information you need to supply is indicated by lowercase letters.

```
//   installation standard jobcard
//*
//*   BACKUP OF THE MANTIS TRANSFER CLUSTER
//*
//BACKUP   EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//CSOT     DD DSN=transfer.cluster,DISP=SHR
//BACKUP   DD DSN=transfer.backup,DISP=(,CATLG),
//         SPACE=(CYL,(1,1),RLSE),UNIT=DISK,
//         DCB=(LRECL=4088,BLKSIZE=4096,RECFM=VB)
//SYSIN    DD *
 REPRO INFILE(CSOT) OUTFILE(BACKUP)
/*
```

2. Replace your current transfer cluster with the cluster on the APMS tape supplied by Cincom. You can do this in one of two ways, depending on whether you initially defined your transfer cluster with or without the attribute REUSE. If you originally defined your cluster with an attribute of REUSE, close the transfer cluster to the online system. Execute the following JCL to overlay your current transfer cluster with the cluster on the APMS tape supplied by Cincom. The information you need to supply is indicated by lowercase letters.

```
//    installation standard jobcard
//*
//*  INSTALL THE CINCOM APMS TRANSFER FILE
//*
//REUSE    EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//CSOT     DD DSN=transfer.cluster,DISP=SHR
//APMS     DD DSN=MANPATCH,UNIT=TAPE,LABEL=(3,SL),
//   VOL=(PRIVATE,RETAIN,SER=??????),DISP=(OLD,PASS)
//SYSIN    DD *
 REPRO INFILE(APMS) OUTFILE(CSOT) REUSE
/*
```

NOTE

In SER=?????? , the question marks (??????) are the tape serial number.

If you originally defined your cluster without the attribute REUSE, you must delete and redefine the transfer cluster before you can REPRO in the transfer cluster on the APMS tape supplied by Cincom. Your online system accessing the transfer cluster must be down (assuming VSAM SHAREOPTIONS of 2). The information you need to supply is indicated by lowercase letters.

```
//      installation standard jobcard
//*
//*    THIS JOB DELETES, DEFINES AND INSTALLS THE PATCH
  TRANSFER CLUSTER
//*
//DELETE EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
     DELETE  transfer cluster -
         CLUSTER-
         CATALOG(user.cat)
/*
//DEFCSOT EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  DEFINE CLUSTER(NAME(transfer.cluster)-
       VOLUMES(??????)-
       REUSE-
       SHAREOPTIONS(2)-
       KEYS(36 0)-
       RECORDSIZE(125,4000)-
       FREESPACE(25,25))-
  DATA(NAME(transfer.data)-
       CONTROLINTERVALSIZE(4096)-
       CYLINDERS(2 1))-
  INDEX(NAME(transfer.index)-
       CONTROLINTERVALSIZE(1024)-
       CYLINDERS(1 1))
/*
```

```
//REUSE    EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//CSOT     DD DSN=transfer.cluster,DISP=SHR
//APMS     DD DSN=MANPATCH,UNIT=TAPE,LABEL=(3,SL),
//   VOL=(PRIVATE,RETAIN,SER=??????),DISP=(OLD,PASS)
//SYSIN    DD *
 REPRO INFILE(APMS) OUTFILE(CSOT)
/*
```
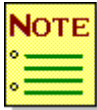
| NOTE | In VOLUMES(??????), the question marks (??????) are the disk volume. Under DEFINE CLUSTER, REUSE is optional. The question marks are the tape serial in VOL=(PRIVATE,RETAIN,SER=??????). |

3. You are ready to transfer in the patch file. Begin by bringing up your TP Monitor and opening the transfer cluster. Sign on to MASTER and select the Transfer Facility option.

    On the Transfer Facility screen, type MCPU in the Bin field and select the Copy From Bin To Library option.

    On the Copy from Bin to Library screen, enter CONTROL in the User field, an R in the Add/Replace field, and a Y in the With Data field. Select option 24 to Transfer All User Entities.

    You can apply patches to your Cincom product using the MANTIS Code Patch Utility.

4. To restore your transfer cluster backup to your current transfer cluster, use the same process that you used above to install the transfer cluster on the APMS tape supplied by Cincom. Substitute your transfer cluster backup for the APMS transfer cluster.

VSE patch file installation

Follow these steps to install the patch file in a VSE environment:

1. Back up your current transfer cluster as follows. The information you need to supply is indicated by lowercase letters.

```
// ASSGN SYS005,TAPE
// TLBL BACKUP,'transfer.backup'
// DLBL CSOT,'transfer.cluster',,VSAM
// EXTENT SYSxxx,xxxxxx
// EXEC IDCAMS,SIZE=AUTO
  REPRO INFILE(CSOT)-
        OUTFILE(BACKUP,ENV(RECFM(VB),BLKSZ(4096),RECSZ(4088)-
        PDEV(2400))
/*
```

2. Replace your current transfer cluster with the cluster on the APMS tape supplied by Cincom.   You can do this in one of two ways, depending on whether you initially defined your transfer cluster with or without an attribute of REUSE.

   If you originally defined your cluster with an attribute of REUSE, close the transfer cluster to the online system. Execute the following JCL to overlay your current transfer cluster with the cluster on the APMS tape supplied by Cincom. The information you need to supply is indicated by lowercase letters.

```
// ASSGN SYS004,TAPE
// ASSGN SYSxxx,xxxxxx
// MTC FSF,SYS004,7
// TLBL TRNSFER,'PATCHES'
// DLBL CSOT,'transfer.cluster',,VSAM
// EXTENT SYSxxx,xxxxxx
// EXEC IDCAMS,SIZE=AUTO
 REPRO
  NFILE(TRNSFER,ENV(RECFM(VB),BLKSZ(4096),STDLABEL,RECSZ(4088)
  -
    PDEV(2400))) OUTFILE(CSOT) REUSE
```

If you originally defined your cluster without the attribute REUSE, you must delete and redefine the transfer cluster before you can REPRO in the transfer cluster on the APMS tape supplied by Cincom. Your online system accessing the transfer cluster must be down (assuming VSAM SHAREOPTIONS of 2). The information you need to supply is indicated by lowercase letters.

```
// TLBL BACKUP,'transfer.backup'
// ASSGN SYS005,TAPE
// ASSGN SYSxxx,DISK,VOL=xxxxxx,SHR
// DLBL CSOT,'transfer.cluster',99/365,VSAM
// EXTENT,SYSxxx,xxxxxx
// EXEC IDCAMS,SIZE=AUTO
  DELETE transfer.cluster -
     CLUSTER-
     CATALOG(user,cat)
  DEFINE CLUSTER(NAME(transfer.cluster)-
     VOLUMES(??????)-
     REUSE-
     SHAREOPTIONS(2)-
     KEYS(36 0)-
     RECORDSIZE(125,4000)-
     FREESPACE(25,25))-
   DATA(NAME(transfer.data)-
      CONTROLINTERVALSIZE(4096)-
      CYLINDERS(2 1))-
   INDEX(NAME(transfer.index)-
      CONTROLINTERVALSIZE(1024)-
      CYLINDERS(1 1))
  REPRO INFILE(CSOT)-
     OUTFILE(BACKUP,ENV(RECFM(VB),BLKSZ(4096),RECSZ(4088)-
     PDEV(2400)))
```

3. You are ready to transfer in the patch file. Begin by bringing up your TP Monitor and opening the transfer cluster. Sign on to MASTER and select the Transfer Facility option.

   On the Transfer Facility screen, type MCPU in the Bin field and select the Copy From Bin To Library option.

   On the Copy from Bin to Library screen, enter CONTROL in the User field, an R in the Add/Replace field, and a Y in the With Data field. Select option 24 to Transfer All User Entities.

   You can apply patches to your Cincom product using MCPU.

4. To restore your transfer cluster backup to your current transfer cluster, use the same process that you used above to install the transfer cluster on the APMS tape supplied by Cincom. Substitute your transfer cluster backup for the APMS transfer cluster.

VM/CMS patch file installation

Follow these steps to install the patch file in a VM/CMS environment:

1. Replace your current transfer cluster with the cluster on the APMS Support Tape.

   A. If you have MANTIS without SUPRA, use the CSOPVEXI EXEC to do this step, as in the following example. It backs up your current transfer cluster, renames it, and then unloads the transfer cluster from the tape. (In the example, aaaa indicates the new file name for your transfer backup file and nnnn indicates the device type to be used in the back up and restore operations.)

```
*REPLACE CURRENT TRANSFER CLUSTER WITH CLUSTER ON APMS TAPE
 EXEC CSOPVEXI BACKUP TRANSFER nnnn
 RENAME TRANSFER BACKUP A aaaa = A
 TAPE REW
 FILEDEF INMOVE CLEAR
 FILEDEF OUTMOVE CLEAR
 FILEDEF INMOVE TAP1 (RECFM VB BLKSIZE 4096
 FILEDEF OUTMOVE DISK TRANSFER BACKUP A (RECFM U BLKSIZE 4096
 TAPE FSF 7
 MOVEFILE
 EXEC CSOPVEXI RESTORE TRANSFER nnnn
```

   B. If you have MANTIS with SUPRA, first:

      i. Link your installation library disk for write access.

      ii. Access your installation library disk as your A-disk.

      iii. Link and access the disk with your current transfer cluster for write access.

Then use the System Administration SUPMSIDC EXEC to perform the backup and restore, as in the following example. In this example, volid indicates the volume ID of the VSAM space containing your current transfer cluster and *aaaa* indicates the file name for your transfer backup file.

```
*REPLACE CURRENT TRANSFER CLUSTER WITH CLUSTER ON APMS TAPE
 EXEC SUPMSIDC SUPTRBAK = A
 RENAME TRANSFER BACKUP A aaaa = A
 TAPE REW
 FILEDEF INMOVE CLEAR
 FILEDEF OUTMOVE CLEAR
 FILEDEF INMOVE TAP1 (RECFM VB BLKSIZE 4096
 FILEDEF OUTMOVE DISK TRANSFER BACKUP A (RECFM U BLKSIZE 4096
 TAPE FSF 7
 MOVEFILE
 EXEC SUPMSIDC SUPTRDEF volid A
 EXEC SUPMSIDC SUPTRRES = A
```

NOTE

♦ SUPMSDBL EXEC on the installation library disk must point to the correct VSAM master catalog.

♦ The DLBL for the ddname CSOT in SUPMSDBL EXEC must point to the VSAM space that contains your current transfer cluster.

2. You are ready to transfer in the patch file. Sign on to MASTER and select the Transfer Facility option.

On the Transfer Facility screen, type MCPU in the Bin field and select the Copy From Bin To Library option.

On the Copy from Bin to Library screen, enter CONTROL in the User field, an R in the Add/Replace field, and a Y in the With Data field. Select option 24 to Transfer All User Entities.

You can apply patches to your Cincom product using the MANTIS Code Patch Utility.

3. Restore your transfer cluster backup to your current transfer cluster.
   To do this:

   A. Rename the backup file, using the following command (*aaaa*
      indicates the file name for your backup file):

   ```
   RENAME aaaa BACKUP A TRANSFER BACKUP A (REPLACE
   ```

   B. Restore the transfer cluster:

      i. If you have MANTIS without SUPRA, use the CSOPVEXI
          EXEC to restore your transfer cluster (*nnnn* is the device
          type to be used in the restore operation):

      ```
      CSOPVEXI RESTORE TRANSFER nnnn
      ```

      ii. If you have MANTIS with SUPRA, use the SUPMSIDC EXEC
          to restore your transfer cluster:

      ```
      SUPMSIDC SUPTRRES = A
      ```

Using MCPU

To access the MANTIS Code Patch Utility (MCPU), sign on to MANTIS
as the Master User. Select MANTIS Utilities from the Facility Selection
menu. Select MANTIS Code Patch Utility from the MANTIS Utilities
Menu and the following Patch Utility displays. All options for MCPU are
accessed from this menu.

```
MCP001                   MANTIS Code Patch Utility


          Patch ID  ..................... :          :



             Create or update a patch ..............  1
             Inspect an existing patch  ............  2
             Apply or back off patches  ............  3
             Delete patches  .......................  4
             View Cincom patch log  ................  5
             View production patch log  ............  6
             Maintain production patch log  ........  7
             Directory of patches  .................  8
             Print patches  ........................  9
             Terminate this facility  .........  CANCEL

                         :    :
```

PATCH ID

Description   *Required.* Defines patch name (or number).

Format   1–8 alphanumeric characters.

Considerations

♦   Because Cincom Patch IDs are eight numeric characters
(*YYYYNNNN*, where *YYYY* are the four digits of the current year and
NNNN is a number unique for each patch), you should adopt an
alphanumeric naming convention for your patches to avoid conflicts
with Cincom patches.

♦   If your patch ID is a duplicate of a Cincom Patch ID, your patch can
be over-written if you update Cincom patches on the patch file using
the Transfer All Entities option.

From the Patch Utility menu you can access the menu options to create, apply, back off, and print patches and perform maintenance functions to patches. All available options are described later in this chapter. You can perform several of the functions from the Patch Utility menu without moving from the menu. For example, when you supply a valid patch ID on the Patch Utility menu and select:

♦ Delete Patches (option 4), MCPU deletes the specified patch from the patch file.

♦ Maintain Production Patch Log (option 7), MCPU deletes the specified patch from the log.

♦ Print Patches (option 9), MCPU prints the specified patch.

MCPU asks for confirmation when deleting a patch or log entry (options 4 and 7). If you use a PF key to select the option, confirm the deletion by pressing that PF key again. If you enter a number in the action field and press ENTER, confirm the deletion by pressing ENTER again. You can cancel the deletion by pressing CANCEL in response to the confirmation message.

Besides using the Patch Utility menu to access and perform MCPU options, you can use the repoint field on this menu to search for a specific patch for:

♦ View Cincom Patch Log (option 5).

♦ View Production Patch Log (option 6).

♦ Directory of Patches (option 8).

All standard MANTIS repoint options are available from this menu.

You can also access an online help facility for the Patch Utility from this screen. Type *help* in the bottom left corner of the screen and press ENTER. MCPU displays instructions for using the MANTIS Code Patch Utility.

Create or Update a Patch

The Create or Update a Patch option allows you to define a new patch or to update an existing patch for your production system that is not currently applied to the system.
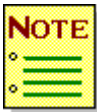
> **NOTE**
> Be sure to create separate patches for Control and Master Users because MCPU puts them on different patch logs.

Patches generated by Cincom cannot be altered (see the following APMS description). When you enter a new patch ID on the Patch Utility menu and select the Create or Update a Patch option, the following screen displays. Data that MCPU supplies was provided as a sample for the following screen:

```
MCP002       Patch: 20013962  APMS: Y  Req: N  Created: YYYY/MM/DD   Page: 1
  Product codes: MN5501

SD: Change the screen name
Prerequisite patches:

Enter patch text on the following lines:
TEST:TESTXX/TEST
VER 2 SCREEN MAP("TEST:SCREEN1")
REP 2 SCREEN MAP("TEST:SCREEN2")
VER 10
REP 10 | Add a comment
VER 230 FIELD_NAME=HOLD_NAME
REP 230






MCP071A:ENTER=Update F1=Help F8=Detailed Description CANCEL=Terminate
```

To access the help facility that is available for this screen, type help in the bottom left corner of the screen and press ENTER, or press F1. MCPU displays instructions for creating or updating a patch.

PATCH

Description   Displays the patch ID that you provided on the Patch Utility menu.

Considerations

♦   You cannot change the patch ID on this screen.

♦   To access a different patch or to create a new one, return to the Patch Utility menu by pressing CANCEL and enter a new patch ID.

APMS

Description   Displays Y in this field if the patch was distributed by Cincom, N if not.

Considerations

♦   Patches generated by Cincom (APMS=Y) cannot be altered.

♦   This field is protected on all screens.

♦   For a patch distributed by Cincom (APMS=Y), MCPU prompts you to press ENTER and transfers you to the Inspect an Existing Patch option. If you press any key other than ENTER, you return to the Patch Utility menu.

CREATED

Description   Displays the date when the patch was created, or the current date if you are creating a new patch.

PAGE

Description   *Optional.* Specifies the current page number of the patch.

Options   1–99

Considerations

- ♦ MCPU supplies the first page number (1) for the patch.

- ♦ To add another page when the first page is full, press ENTER to save/replace the patch and overtype the PAGE field with the next consecutive number and press ENTER.

- ♦ The pages must be consecutive, that is, if the last page is 2, the next page must be 3.

PRODUCT CODES

Description   *Required.* Identifies the product(s) to which the patch is applied.

Considerations

- ♦ You can update this field on Page 1 only.

- ♦ When creating a patch for a production system, use a Product Code that is different from Cincom product codes.

- ♦ A maximum of 8 product codes can be assigned to a patch.

REQ (REQUIRED)

Description	*Required.* Specifies whether the patch is required on the system.
Default	Y
Options	Y
	N
Consideration	You can update this field on Page 1 only.

SD (SHORT DESCRIPTION)

Description   *Required.* Specifies the short description of the patch.

Considerations

♦   When creating a patch, you must provide a short description of the patch.

♦   The short description is limited to one line only.

♦   You can update the description on Page 1 only.

♦   The short description you enter here displays on the Cincom Patch Log or on the Production Patch Log, and on the Directory of Patches.

♦   Uppercase and lowercase permitted.

DETAILED DESCRIPTION

Description   *Optional.* Displays the detailed description screen when you press PF8 from any page of the patch definition screen.

Considerations

♦ A separate screen is used to enter a more detailed description for the patch.

♦ You can enter a maximum of six lines of additional description on this detailed description screen. The following screen illustration displays a sample detailed description.

♦ Uppercase and lowercase permitted.

```
MCP003          Detailed Description For Patch: 20013962

This patch changes the screen used for program TESTXX.  It also removes
the reference to the hold name field.


















MCP105A:ENTER=Update  F3=Exit  CANCEL=Terminate
```

PREREQUISITE PATCHES

Description   *Required*. Specifies the IDs of any prerequisite patches.

Considerations

- ♦ Patches you must apply to the program before you apply this patch appear in these fields.

- ♦ You can define up to eight prerequisite patches.

- ♦ You can update these fields on Page 1 only.

PATCH DEFINITION (field heading not supplied)

Description   *Required*. Specifies the patch definition.

Considerations

- ♦ Supply a patch definition, up to nine pages long, each page 15 lines in length.

- ♦ The patch definition consists of four parts:

  - Program name

  - VER (verify) statements

  - REP (replace) statements

  - BIND statements

Program name

Begin the patch definition with the user and program name in the following format:

```
user:program-name/password
```

You must specify the correct program password (e.g., MASTER:SIGN_ON/ password). However, if the patch is being created for a program on a Cincom user ID, a password is not allowed.
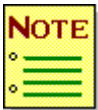
NOTE | A program name must be followed by a VER statement or a BIND statement.

VER/REP statements

The VER statement identifies the program line to be changed; the REP statement specifies what that program line should contain. The format of these statements follows:

```
VER x y (for example: VER 320 WHILE I=LIMIT)
REP x z (for example: REP 320 WHILE I<=LIMIT)
```

In the preceding example:

♦   *x* represents a valid line number in the MANTIS program that must be followed by a blank space.

♦   *y* represents an actual MANTIS statement or is left blank (to verify that a particular program line does not exist before you insert a new line with that line number).

♦   *z* represents the statement that replaces y, is an equal sign (=) to indicate the replacement statement is identical to *y*, or is blank (to delete *y*).

A VER statement must precede a REP statement. A REP statement must be followed by a VER statement, a BIND statement, a new program name, or the end of the patch text. Corresponding VER and REP statements must reference the same line number and cannot be split across two pages of patch text.

A patch cannot have more than one pair of VER/REP statements for a single program line, because MCPU executes all the VER statements for the program(s) in a patch before executing the REP statements,

Comments and text in quotations may be in lowercase.

VER/REP statements for long program lines can exceed 80 columns. To enter or update these long lines on an 80 column terminal, tab to the bottom right corner of the screen, type w (for window mode), and press ENTER. Press PF11 to scroll to the right for entering VER/REP text beyond column 80 (maximum of 253 characters per line). Exit window mode by pressing PF9. Press ENTER after leaving window mode to save the data entered while in window mode.

BIND statement

You can use the BIND statement only if you have the High Performance Option (HPO). The BIND statement indicates whether the specified program should be bound or unbound. The format is:

```
BIND [OFF]
```

To bind a program, enter BIND. To unbind a program, enter BIND OFF. If a BIND statement is included in the patch text, it should always be located at the end of the patch text for each individual program. Therefore, a BIND statement must always follow a program name or a REP statement. Binding considerations are also discussed in Apply/Back Off Patches.

NOTE

Do not bind or unbind Control programs unless specifically directed to do so by your local Cincom representative or by a patch generated by Cincom.

You can supply different program names within one patch because a patch can affect several programs. For example, a patch can consist of a program name, one VER statement and one REP statement, and another program name with two VER statements and two REP statements. The following figure illustrates this example:

```
MCP002        Patch: 20013962  APMS: Y  Req: Y  Created: YYYY/MM/DD    Page: 1
  Product codes: MN5501

SD: Change the screen name
Prerequisite patches:

Enter patch text on the following lines:
TEST:TESTXX/TEST
VER 2 SCREEN MAP("TEST:SCREEN1")
REP 2 SCREEN MAP("TEST:SCREEN2")
VER 10
REP 10 | Add a comment
VER 230 FIELD_NAME=HOLD_NAME
REP 230
TEST:TESTZZ/TEST
VER 230 FIELD_NAME=HOLD_NAME
REP 230
VER 592
REP 592 | Add a comment




MCP071A:ENTER=Update F1=Help F8=Detailed Description CANCEL=Terminate
```

If you fill a page and need to continue the patch definition, press ENTER to save/replace the patch text on that page, move the cursor to the PAGE field and type the number of the next consecutive page. When you press ENTER, MCPU redisplays the information on the top of the patch screen and provides 15 new lines for you to continue your patch definition. Remember that you can update heading information only on Page 1 of the patch.

NOTE

Remember to press ENTER to save/replace your updates before pressing CANCEL to exit and return to the Patch Utility menu. If you do not press ENTER first, your updates are lost.

To delete a page of patch text, move the cursor to each line of the patch definition and use the EOF key to erase the line. When you press ENTER, MCPU deletes the page and decrements all following pages by one (e.g., page 4 becomes page 3, page 3 becomes page 2, etc.).

Inspect an Existing Patch

The Inspect an Existing Patch option allows you to view, but not alter, a patch that is already on the system. Supply the patch ID on the Patch Utility menu and select option 2. MCPU displays the completed version of the Create or Update a Patch screen as in the following screen illustration:

```
MCP002        Patch: 20013962  APMS: Y  Req: Y  Created: YYYY/MM/DD   Page: 1
  Product codes: MN5501

SD: Change the screen name
Prerequisite patches:


TEST:TESTXX/TEST
VER 2 SCREEN MAP("TEST:SCREEN1")
REP 2 SCREEN MAP("TEST:SCREEN2")
VER 10
REP 10 | Add a comment
VER 230 FIELD_NAME=HOLD_NAME
REP 230
TEST:TESTZZ/TEST
VER 230 FIELD_NAME=HOLD_NAME
REP 230
VER 592
REP 592 | Add a comment




MCP052A:Overtype 'page' number, CANCEL=Terminate, F8=Detailed Description
```

To scroll forward or backward, overtype the page number and press ENTER. To view help information, type help in the bottom left corner of the screen and press ENTER.

VER/REP statements for long program lines can exceed 80 columns. To view these long lines on an 80 column terminal, tab to the bottom right corner of the screen, type w (for window mode), and press ENTER. Press PF11 to scroll to the right for viewing VER/REP text beyond column 80. Exit window mode by pressing PF9.

Press the CANCEL key to return to the Patch Utility menu.

Apply/Back Off Patches

The Apply/Back Off Patches option allows you to apply a patch to your MANTIS system, apply all required patches for a specific product, back off (remove) a patch from your MANTIS system, and back off all applied patches for a product.

To view a log of patches, select option 5 or 6 from the Patch Utility menu. MCPU logs patches applied to Cincom programs on the Cincom Patch Log and patches applied to user programs on the Production Patch Log.

When you select the Apply/Back Off Patches option from the Patch Utility menu, the following screen displays:

```
MCP004                   MANTIS Code Patch Utility


                    Apply/Back Off Patches Facility


            Patch ID  ................ :          :
            Product Code  ............ :          :
              Starting Date (YYYYMMDD). :         :
              Ending Date (YYYYMMDD)... :         :


        Apply a patch  ...................................  1
        Apply all required patches for product/date  ....... 2
        Back off a patch  ................................  3
        Back off all applied patches for product/date  ..... 4
        Terminate this facility  .....................  CANCEL


                        :    :
```

If you supplied the patch ID on the Patch Utility menu, MCPU displays it on this screen.

To use the help facility, type help in the bottom left corner of the screen and press ENTER. MCPU displays instructions for applying and backing off patches.

Apply a Patch

When you specify a patch ID either on the Apply/Backoff Patch menu or on the Patch Utility menu and select the Apply a Patch option, MCPU checks that the specified patch is not already applied and that all prerequisite patches are applied. If so, MCPU applies the patch.

If the patch is already applied, MCPU displays a message saying so. To reapply the patch, type override at the bottom left corner of your screen and press ENTER. MCPU tries to apply the patch and displays either a message indicating that the patch was applied successfully or the line of the patch text that failed to be applied.

MCPU rebinds a program when you apply a patch that does not contain a BIND or a BIND OFF statement if the program was bound before the patch was applied.

Apply all required patches for product/date

When you specify a Product Code and select this option, MCPU tries to apply the first group of patches (up to ten) for the product, checking that the Product Code matches and the patch is required. If more than ten patches are being applied, MCPU asks for confirmation before applying each group of ten patches until all patches are applied or until you press the CANCEL key at a confirmation message to cancel applying the patches. MCPU displays the patch ID for any patch that failed to be applied. When you press ENTER again, the next screen of patches displays.

You can specify starting and/or ending dates to limit the set of patches that MCPU attempts to apply for the designated product. The create date of each patch for the designated product is checked against the specified date(s) to determine if application of the patch should be attempted.

NOTE
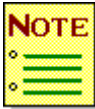
When applying all required patches for a Cincom product code and you receive the message REQUIRED PATCH *nnnnnnnn* NOT APPLIED, apply the prerequisites using the Apply a Patch option. If any prerequisite patches seem to be missing, contact your local Cincom representative.
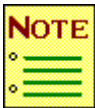
NOTE

Although using the Full-Screen Editor, you can save illogical programs (those missing matching ENDs and/or EXITS) while using MCPU. You cannot apply a patch if it causes the program to become illogical (that is, WHILEs, UNTILs, IFs, and WHENs must have corresponding ENDs, and ENTRYs must have corresponding EXITs).

Back Off a Patch

When you specify a patch ID and select the Back Off a Patch option, MCPU checks that the specified patch is applied and has not already been backed off (removed from) the system. If the patch is not on the system, MCPU displays a message saying so. If it has already been backed off, you can type override at the bottom left corner of your screen and press ENTER to force MCPU to try to back off the patch.

When you back off a patch that includes a BIND statement, MCPU unbinds the program. Backing off a patch that contains a BIND OFF statement binds the program.

Back off all applied patches for product/date

When you specify a Product Code of applied patches and select this option, MCPU tries to back off the first group of patches (up to ten) for the product, checking that the Product Code matches and the patch is applied. MCPU backs off ten patches at a time, asking for confirmation before backing off each group until all patches are backed off or until you press the CANCEL key in response to a confirmation message. Pressing the CANCEL key cancels the back off function.

You can specify starting and/or ending dates to limit the set of patches that MCPU attempts to back off for the designated product. The create date of each patch for the designated product is checked against the specified date(s) to determine if removal of the patch should be attempted.

If MCPU encounters a patch that it cannot back off, it continues to back off the remainder of the patches. When all valid patches are backed off, MCPU displays the patch ID(s) for the patch(es) that could not be backed off.

NOTE
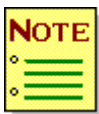
Warning: Although using the Full-Screen Editor, you can save illogical programs (those missing matching ENDs and/or EXITS) while using MCPU. You cannot back off a patch if it causes the program to become illogical (that is, WHILEs, UNTILs, IFs, and WHENs must have corresponding ENDs, and ENTRYs must have corresponding EXITs).

Delete Patches

The Delete Patches option allows you to delete patches from the patch file. Patches do not have to be backed off to be deleted.

NOTE

Warning: Once a patch is deleted, it cannot be backed off or reapplied. Also if you select Create or Update a Patch to try to recreate the patch, you receive the message YOU CANNOT UPDATE AN APPLIED PATCH. It is recommended that you back-off a patch before deleting it. As an alternate precaution, you can transfer a copy of the patch to a bin on the transfer file. In this way if you do delete an applied patch, you are able to transfer in a copy of that patch, enabling you to back it off, update it, and so on.

When you select this option from the Patch Utility menu, the following screen displays:

```
MCP010                   MANTIS Code Patch Utility


                         Delete Patches Facility



            Patch ID  ................. :          :
            Product code  ............. :        :


        Delete a patch  ................................. 1
        Delete all applied patches by product code ....... 2
        Delete all patches for a product code  ........... 3
        Delete all patches on the patch file  ............ 4
        Terminate this facility  ....................  CANCEL

                        :    :
```

MCPU asks for confirmation before executing any option on this menu. If you use a PF key, confirm the deletion by pressing that PF key again. If you enter a number in the action field and press ENTER, confirm the deletion by pressing ENTER again. You can cancel the deletion by pressing CANCEL when the confirmation message displays.

To use the help facility, type help in the bottom left corner of the screen and press ENTER. MCPU displays instructions for deleting patches.

Delete a Patch

When you specify a valid patch ID and select the Delete a Patch option, MCPU asks for confirmation before deleting the patch.

Delete all applied patches by product code

When you specify a Product Code and select this option, MCPU asks you to confirm the deletion. If confirmed, MCPU checks that the patch exists on a patch log file and that the back off date is blank. If so, MCPU deletes the first group of applied patches (up to ten) for the product. MCPU deletes ten patches at a time, asking for confirmation before deleting each group until all patches are deleted or until you press the CANCEL key in response to a confirmation message to cancel the deletion.

Delete all patches by product code

When you specify a Product Code and select this option, MCPU asks you to confirm the deletion. If confirmed, MCPU deletes the first group of patches (up to ten) for the product. MCPU deletes ten patches at a time, asking for confirmation before deleting each group of ten patches until all patches are deleted or until you press the CANCEL key in response to a confirmation message to cancel the deletion.

Delete all patches on the patch file

When you select this option and confirm the deletion, MCPU deletes the first group of patches (up to ten) from the file. If more than ten patches are being deleted, MCPU asks for confirmation before deleting each group of ten patches until all patches are deleted or until you press the CANCEL key in response to a confirmation message to cancel the deletion.

View Cincom Patch Log

The View Cincom Patch Log option displays information on patches applied to Cincom programs. Cincom maintains this log, which may be cleared for a product each time a new release of that Cincom product containing MANTIS is installed. When you select the View Cincom Patch Log option from the Patch Utility menu, the following screen displays:

```
MCP005                    Cincom Patch Log Directory


                 Product code ............. :        :
```

You can specify a product code on this screen to limit the set of patches that MCPU displays from the Cincom Patch Log. If you specify no product code on this screen, all patches on the Cincom log display. The following screen displays the Cincom Patch Log (if a product code was specified, it displays on the top line of the screen):

```
MCP006                     Cincom Patch Log                    YYYY/MM/DD
                                                                 HH:MM:SS
--Patch- APMS Appl --------------Description------------------------------------------- -Applied-- Backed Off
20013962  Y    Y   Change the screen name                                               YYYY/MM/DD
```

MCPU displays a list, in numeric order, of all patches that have been applied to Cincom programs since the current release of the product was installed. To scroll through the list, press ENTER. This list includes the PATCH (Patch ID), APMS (the patch originator: Yes if on APMS tape created by Cincom, blank if not), APPL (the patch applied field: Yes if applied, blank if not), DESCRIPTION (the short description), APPLIED (the applied date), and BACKED OFF (the backed-off date).

On a standard-sized terminal, this log extends beyond the physical screen. To view the complete short description, the applied and backed-off dates and the product code, tab to the bottom right corner of this screen, type a w (for window mode), and press ENTER. Press PF11 to scroll to the right. You must get out of window mode by pressing PF9 to scroll down the patch log. Press the CANCEL key to exit from this screen and return to the Patch Utility menu.

All fields on this screen are protected. However, you can use the repoint field to search for a specific patch. In the bottom left corner of the screen type 1-6 characters (representing a patch ID or the first part of a patch ID), and press ENTER. Patches display, beginning with the entry corresponding to, or the first entry following, your repoint value.

You can also specify that the screen include a particular set of numbers. To specify a range of patch IDs, tab to the bottom left corner of the screen and enter starting and ending patch IDs separated by a colon (e.g., 20011000:20012000).

To search for a set of patch IDs corresponding to a particular pattern of characters, use the following in the repoint field:

*   Represents an indefinite number of generic characters. For example, *2* displays a list of patch IDs containing the number 2.

?   Represents a single generic character. 2001???? designates a patch ID that begins with the number 2001 and ends with any 4 characters.

To page through the log, press ENTER.

You can use the Print Patches facility to print the Cincom Patch Log.

View Production Patch Log

The View Production Patch Log option displays information for patches applied to the production system. When you select this option from the Patch Utility menu, the following screen displays:

```
MCP005                    Production Patch Log Directory


              Product code ............ :        :
```

You can specify a product code on this screen to limit the set of patches that MCPU displays from the Production Patch Log. If you specify no product code on this screen, all patches on the production log display. The following screen displays the Production Patch Log (if a product code was specified, it displays on the top line of the screen):

```
MCP016                     Production Patch Log                   YYYY/MM/DD
                                                                   HH:MM:SS
Patch-- Appl ----------------Description---------------------------------- -Applied-- Backed Off
A1234567 Y   Fix range checking subroutine                                 YYYY/MM/DD
```

MCPU displays a listing, in numeric order, of all patches that have been applied to production programs. To scroll through the list, press ENTER. This list includes the PATCH (Patch ID), APPL (the patch applied field: <u>Y</u>es if applied, blank if not), DESCRIPTION (the short description), APPLIED (the applied date), BACKED OFF (the backed-off date), and PRODUCT (the Product Code).

On a standard-sized terminal, this log extends beyond the physical screen. To view the complete short description, the applied and backed-off dates and the product code, tab to the bottom right corner of the directory screen, type a w (for window mode), and press ENTER. Press PF11 to scroll to the right. You must quit window mode by pressing PF9 to scroll down the patch log. Press the CANCEL key to exit from this screen and return to the Patch Utility menu.

All fields on this screen are protected. However, you can use the repoint field to search for a specific patch. In the bottom left corner of the screen type 1-8 characters (representing a patch ID or the first part of a patch ID), and press ENTER. Patches display, beginning with the entry corresponding to, or the first entry following, your repoint value.

You can also specify that the screen include a particular set of numbers. To specify a range of patch IDs, tab to the bottom left corner of the screen and enter starting and ending patch IDs separated by a colon (e.g., 10000000:19999999).

To search for a set of patch IDs corresponding to a particular pattern of characters, use the following in the repoint field:

*   Represents an indefinite number of generic characters. For example, *2* displays a list of patch IDs containing the number 2.

?   Represents a single generic character. 2001???? designates a patch ID that begins with the number 2001 and ends with any 4 characters.

To page through the log, press ENTER.

You can use the Print Patches facility to print the Production Patch Log. To delete entries from this log, see the Maintain Production Patch Log option.

Maintain Production Patch Log

The Maintain Production Patch Log option allows you to delete records from the Production Patch Log. This is done when new versions of MANTIS programs are transferred in or when programs become obsolete and existing patches are updated or deleted. When you select this option from the Patch Utility menu, the following screen displays:

```
MCP008                   MANTIS Code Patch Utility


           Production Patch Log Maintenance Facility



         Patch ID  . . . . . . . . . :          :
         Product code  . . . . . . . :          :



         Delete log record by patch ID . . . . . . . . . . . 1
         Delete all log records for product code . . . . . . 2
         Delete all records on the log . . . . . . . . . . . 3
         Terminate this facility . . . . . . . . . . . . CANCEL

                          :    :
```

MCPU asks for confirmation before executing any of the options on this menu. If you use a PF key, confirm the deletion by pressing that PF key again. If you enter a number in the action field and press ENTER, confirm the deletion by pressing ENTER again. You can cancel the deletion by pressing CANCEL at the confirmation message.

To use the help facility, type HELP in the bottom left corner of the screen and press ENTER. MCPU displays instructions for maintaining the Production Patch Log.

NOTE
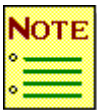
The following options should be used with caution so the Production Patch Log does not get out of synchronization with the patch file. If you delete records from this log for a specific Product Code, MCPU does not have a record of the patches currently applied for that code. As a result, the Delete All Applied Patches By Product Code option is not successful for that product. Also, you have to use the override option to back off a patch whose associated log record is deleted.

Delete log record by patch number

When you specify a valid patch ID and select this option, MCPU asks for confirmation before deleting a log record for a single patch.

Delete all log records for product code

When you specify a valid Product Code and select this option, MCPU asks for confirmation before deleting all log records for that Product Code. If confirmed, MCPU deletes the first group of records (up to ten) from the file. MCPU deletes ten records at a time, asking for confirmation before deleting each group until all records are deleted or until you press the CANCEL key in response to a confirmation message to cancel the deletion.

Delete all records on the log

When you specify a valid Product Code and select this option, MCPU asks you to confirm the deletion. If confirmed, MCPU deletes the first group of records (up to ten) from the file. MCPU deletes ten records at a time, asking for confirmation before deleting each group until all records are deleted or until you press the CANCEL key in response to a confirmation message to cancel the deletion.

View Directory of Patches

The Directory of Patches option displays a list of all the patches on the patch file. (All production and Cincom patches are stored on the patch file.) When you select this option from the Patch Utility menu, the following screen displays:

```
MCP009                    MANTIS Code Patch Utility


                         Directory of Patches




              Product code ............. :         :
              Starting date (YYYYMMDD) . :           :
              Ending date (YYYYMMDD) ... :           :
```

You can specify three optional selection criteria on this screen to limit the set of patches that MCPU displays from the directory. If you specify no selection criteria, MCPU displays the entire directory of patches. The following screen displays the directory of patches (any product code or date specifications appear on the top line of the screen):

```
MCP014             Directory of Patches                      YYYY/MM/DD
                                                             HH:MM:SS
--Patch--Pub-Req--Created-- ------------Description--------------------------
A1234567          YYYY/MM/DD Text Patch
20013962  Y   Y   YYYY/MM/DD Change the screen name
```

This directory displays a listing, in numeric order, of all the patches that are currently on the patch file. To scroll through the list, press ENTER. This list includes the PATCH (Patch ID), APMS (the patch originator: Yes if on an APMS tape created by Cincom, blank if not), REQ (required patch indicator: Yes, blank if not), CREATED (the created date), DESCRIPTION (the short description), and up to 4 product codes.

On a standard-sized terminal, the directory extends beyond the physical screen size. To view the complete short description and up to 4 product codes, tab to the bottom right corner of the directory screen, type a w (for window mode), and press ENTER. Press PF11 to scroll to the right. You must get out of window mode by pressing PF9 to scroll down the patch log. Press the CANCEL key to exit from this directory and return to the Patch Utility menu.

You can also use the repoint option to view a particular patch. In the bottom left corner of the screen type 1-8 characters (representing a patch ID or the first part of a patch ID), and press ENTER. MCPU displays the Directory List, beginning with the entry corresponding to, or the first entry following, your repoint value.

You can also specify that the directory list include a particular set of numbers. To specify a range of patch IDs, tab to the bottom left corner of the screen and enter starting and ending patch IDs separated by a colon (e.g., 20010000:20012000).

To search for a set of patch IDs corresponding to a particular pattern of characters, use the following in the repoint field:

*   Represents an indefinite number of generic characters. For example, *2* displays a list of patch IDs containing the number 2.

?   Represents a single generic character. 2001???? designates a patch ID that begins with the number 2001 and ends with any 4 characters.

You can use the Print Patches Facility to print the Directory of Patches.

Print Patches

The Print Patches option provides a hard copy of a patch, a number of patches, a log or directory. MCPU routes a copy of the item(s) to the designated printer. Depending on your printer specification, the printout varies in width (80 vs. 132 columns). When you select the Print Patches option from the Patch Utility Menu, the following screen displays:

```
MCP020                    MANTIS Code Patch Utility


                        Print Patches Facility


        Patch ID  ................ :          :
        Product code  ............ :         :


            Print a patch  .......................... 1
            Print all patches for a product code  .... 2
            Print all patches on the patch file  ..... 3
            Print directory of patches  ............. 4
            Print Cincom patch log  ................. 5
            Print production patch log  ............. 6
            Terminate this facility  ............ CANCEL

                        :   :
```

To use the help facility, type help in the bottom left corner of the screen and press ENTER. MCPU displays instructions for using the options on this screen.

Print a Patch

When you specify a valid patch ID and select the Print a Patch option, MCPU prints a copy of the patch. Do not specify a Product Code for this option.

Print all patches for a Product Code

When you specify a valid Product Code and select this option, MCPU prints a copy of the first group of up to ten patches. MCPU prints ten patches at a time, asking for confirmation before printing each group until all patches are printed or until you press the CANCEL key.

NOTE	When selecting the following options, do not specify a patch ID or a Product Code.

Print all patches on the patch file

When you select this option, MCPU prints ten patches at a time, asking for confirmation before printing each group until all patches are printed or until you press the CANCEL key. To confirm printing each group of patches, press ENTER. You can print a range of entities by entering Starting and Ending numbers separated by a colon in the repoint field (e.g., 20011000:20012000) and pressing PF3.

The DESCRIPTION field on the following options is truncated when using an 80-column printer.

Print directory of patches

When you select this option, MCPU prints a copy of the Directory of Patches (all patches currently on the patch file).

Print Cincom patch log

When you select this option, MCPU prints a copy of the Cincom Patch Log.

Print production patch log

When you select this option, MCPU prints a copy of the Production Patch Log.

Using MCPU with Batch MANTIS

The following examples illustrate Batch MANTIS input required for running a few of the basic MCPU processes.

Batch MANTIS must be able to open the MANTIS cluster for update and the TRANSFER cluster for read access. Use Batch MANTIS to apply MANTIS-code patches when your TP monitor is inactive.

For JCL examples of running Batch MANTIS, refer to *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001.

NOTE
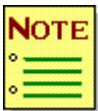
The following examples show <PA2> for CANCEL because <PA2> is the default value for CANCEL. If you have another key designated for CANCEL, use that key.

♦ The following sample Batch MANTIS input copies the MCPU bin from the TRANSFER cluster to the MANTIS cluster:

```
MASTER;password;
11;
MCPU;;3;
;;R;Y;CONTROL;;;24;
<PA2>
<PA2>
<PA2>
```

♦ The following sample Batch MANTIS input applies all required MCPU patches for the MN5501 product code:

```
MASTER;password;
1;
CONTROL:MCPU_MENU;
<PF3>;
;MN5501;;;2;
<PA2>
<PA2>
<PA2>
```

♦ The following sample Batch MANTIS input applies all required MCPU patches for the MN5501 product code with a date range starting at 20011000 and ending at 20012000:

```
MASTER;password;
1;
CONTROL:MCPU_MENU;
<PF3>;
;MN5501;20011000;20012000;2;
<PA2>
<PA2>
<PA2>
```

♦ The following sample Batch MANTIS input prints all patches for the MN5501 product code:

```
MASTER;password;
1;
CONTROL:MCPU_MENU;
<PF3>;
;MN5501;<PF2>;
<PA2>
<PA2>
<PA2>
```

♦ The following sample Batch MANTIS input uses the MANTIS Utility Selection Menu to select MCPU and then prints an individual patch:

```
MASTER;password;        <-----sign on to MASTER user
12;                     <-----MANTIS Utility Selection
8;                      <-----select MCPU
20010001;               <-----select patch 20010001
<PF9>                   <-----print the patch
<PA2>
<PA2>
<PA2>
```

Copying patches from one system to another

You can copy individual patches or all patches from one system to another (such as, TEST to PRODUCTION). You must have MCPU installed on both systems.

To copy all patches, complete the following steps:

1. Sign on as MASTER and select the Transfer Facility option.

2. On the Transfer Facility screen, type in the bin you intend to use for the transfer (or create a bin), and select the Copy From Library To Bin option.

3. On the Copy From Library To Bin screen, enter CONTROL in the USER field, an A or R in the (A)DD/(R)EPLACE field, whichever is appropriate.

NOTE	An R in the (A)DD/(R)EPLACE field automatically performs an add if the records to be replaced are not found.

4.   Enter a Y in the WITH DATA field and MCPU_PATCH in the STARTING NAME field. Leave the ENDING NAME field blank. Select FILE PROFILE (option 3).

5. Then sign on to the second system as MASTER, select the Transfer Facility option.

6. On the Transfer Facility screen, type in the bin you used in the previous steps. Select the Copy From Bin To Library option.

7. In the Copy From Bin To Library screen, enter CONTROL in the USER field, an R in the (A)DD/(R)EPLACE field, a Y in the WITH DATA field and MCPU_PATCH in the STARTING NAME field. Leave the ENDING NAME field blank. Select the FILE PROFILES option.

To copy selected patches, complete the following steps:
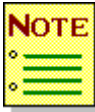
NOTE

The file profile for MCPU PATCH must exist on the CONTROL library of the system to which you are copying individual patches. If the file profile does not exist, execute steps 3 and 4 below; otherwise if you know the file profile already exists in the bin, skip steps 3 and 4.

1.   Sign on as MASTER and select the Transfer Facility option.

2.   On the Transfer Facility screen, type in the bin you intend to use for the transfer (or create a bin), and select the Copy From Library To Bin option.

3.   On the Copy From Library To Bin screen, enter CONTROL in the USER field, an A or R in the (A)DD/(R)EPLACE field, whichever is appropriate.

NOTE
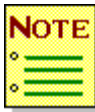
An R in the (A)DD/(R)EPLACE field automatically performs an add if the records to be replaced are not found.

4.   Enter an N in the WITH DATA field and MCPU_PATCH in the STARTING NAME field. Leave the ENDING NAME field blank. Select FILE PROFILE (option 3). This completes the creation of a file profile in the transfer bin.

5.   Select USER FIELD DATA (option 14) and Copy By Key with the patch number being the key. Repeat until all individual patches are copied to the transfer bin.

6.   Then sign on to the second system as MASTER, select the Transfer Facility option.

7.   On the Transfer Facility screen, type in the bin you used in the previous steps. Select the Copy From Bin To Library option.

8.   In the Copy From Bin To Library screen, enter CONTROL in the USER field, an R in the (A)DD/(R)EPLACE field, a Y in the WITH DATA field and MCPU_PATCH in the STARTING NAME field. Leave the ENDING NAME field blank. Select the FILE PROFILES option.

CEF logging of patched programs

If Log CEF Operations is set to Yes, applying and backing off patches are logged. The Action Code in the Audit Log Display is the following format:

```
FXy:pppppppp
```

FXy:

Description Displays whether the patch was applied or backed off and if the patch affects single or multiple programs.

Options FXA Patch was applied to this program. This patch only affects a single program (patches only this program).

FXB Patch was backed off from this program. This patch only affects a single program.

FXC Patch was applied to this program. This patch is part of a multiprogram patch (patches two or more programs).

FXD Patch was backed off from this program. This patch is part of a multiprogram patch (patches two or more programs).

ppppppppp

> **Description**   Displays the patch number.
>
> **Example**   This Audit Trail List indicates that patch 20011000 was applied to TEST_PROGRAM. (Sequence number 99999). Later the same patch was backed off (Sequence 99998). The listing is in reverse chronological order (most recent listed first).

```
ELOGLIST01          Audit Trail List (MASTER)              YYYY/MM/DD HH:MM:SS
===>
Action    SeqNo Name                                 Date     Time     Action Code
--------- ----- ------------------------------ -------- -------- ------------
          99998 TEST_PROGRAM                         YYYYMMDD HH:MM:SS FXA:20011000
          99999 TEST_PROGRAM                         YYYYMMDD HH:MM:SS FXB:20011000
```

NOTE   Because you can only patch programs from the MASTER user, patching programs residing in different users are logged only to the MASTER user's Audit Trail. The user has no log record of their program being patched.

9

Authorize MANTIS/Options Utility

The Authorize MANTIS Options utility allows you to set start/stop dates for MANTIS. It also allows you to set which options your installation can use and how long your installation can use them. The information that you enter is determined by your contract with Cincom. This utility consists of two screens, each providing space to enter site-specific information about your CPUs, features, and MANTIS use. Completion of both screens determines your access period and access level in MANTIS (based on the expiration date for your CPU and features).

To simplify this process, the screens are described separately as:

♦ Authorized CPUID List screen (for listing the CPUIDs you use with MANTIS).

♦ Cincom Product Authorization screen (for recording more detailed information about the features and use of MANTIS at your site).

You must complete the Authorized CPUID List screen before advancing to the Cincom Product Authorization screen.

Before beginning work on either the Authorized CPUID List screen or the Cincom Product Authorization screen, you must have your new Cincom password. This 8-character product authorization password corresponds directly to a valid CPU and should not be confused with the user ID password you regularly enter at the sign-on screen. Contact your Cincom representative if you have not received your new password, or if the password you enter is not accepted.

Authorized CPUID List

The following Authorized CPUID List screen displays when you select Authorize MANTIS/Options from the Utilities menu.

After you enter the Action and CPUID fields, the screen displays the MANTIS Start Date, MANTIS Expiration Date, Licensed Terminals, and Lead Days fields. Primarily, this screen functions as a directory for each of the CPUIDs for which you are authorized.

```
AUH001               MANTIS Authorized CPUID List          YYYY/MM/DD HH:MM:SS
Current Running CPUID: 2222333344440000              MANTIS Release: 5501.xxx
Action  CPU ID           Start Date  Expiration  Licensed Terminals  Lead Days
------  ----------------  ----------  ----------  ------------------  ---------
        1111222233330000  YYYY/MM/DD  YYYY/MM/DD                             60
   __   2222333344440000  YYYY/MM/DD  UNLIMITED                              60
        3333444455550000  YYYY/MM/DD  YYYY/MM/DD                             60




AUHACMI:Enter I(insert) and CPUID, U(update), D(delete), V(view), or CANCEL
```

The previous figure shows a sample Authorized CPUID List that you might see. Notice that the currently running CPUID is displayed above the field heading line as well as in the list.

MANTIS supplies the CPUID currently running and positions the cursor in the Action field to the left of the CPUID. During installation, the Batch dialog facility is invoked to insert your CPUID record. Use the Insert command in the Action field to add your CPUID(s) if you need to record another valid CPUID. Later you may want to use the Update command to modify information for an existing CPUID, the View command to display the detail screen for any CPUID, and the Delete command to remove an existing CPUID.

An asterisk (*) displays in the Action field after the action is completed. Pressing ENTER indicates you are finished with this screen and ready to complete the Cincom Product Authorization screen described in "Cincom Product Authorization" on page 620.

If you have multiple MANTIS CPUs, insert them under the displayed CPUID. Follow the instructions that appear in the Message Line to complete this screen before advancing to the Cincom Product Authorization screen.

The following screen shows how a user with a valid CPUID could complete the Authorized CPUID List screen. At this point, the user can press ENTER (to indicate the CPUID is to be inserted) and advance to the Cincom Product Authorization screen.

```
AUH001                MANTIS Authorized CPUID List           YYYY/MM/DD HH:MM:SS
Current Running CPUID: 2222333344440000                   MANTIS Release: 5501.xxx
Action  CPU ID            Start Date  Expiration  Licensed Terminals  Lead Days
------  ----------------  ----------  ----------  ------------------  ---------
        1111222233330000  YYYY/MM/DD  YYYY/MM/DD                             60
        2222333344440000  YYYY/MM/DD  UNLIMITED                              60
        3333444455550000  YYYY/MM/DD  YYYY/MM/DD                             60
   I    1111111111110000




AUHACMI:Enter I(insert) and CPUID, U(update), D(delete), V(view), or CANCEL
```

If you have more than one screen filled with CPUIDs, press PF1 to display the subsequent screens of ID(s).

Action

Description *Required*. Indicates the type of processing action.

Options I Insert a CPUID and associated information.

U Update a CPUID and associated information.

D Delete a CPUID and associated information.

V View a CPUID and associated information.

X Extend authorization one time if MANTIS/features expire.

Considerations

♦ Press the CANCEL key to terminate this process.

♦ Press ENTER to indicate you have no other changes and are ready to advance to the Cincom Product Authorization screen for each CPU.

♦ You may need to modify the authorization screen data during your current contract to add or delete a CPUID or a feature, view information for a CPUID, or change your expiration warning lead days. "Authorized CPUID List" on page 612 and "Cincom Product Authorization" on page 620 of this document include samples of these screens and provide instructions for completing each of the required fields for the update, insert, view, and delete processes.

♦ To update, insert, view, or delete CPUID information, you must first access the Authorized CPUID List screen by choosing option 1 from the Utility Selection menu. When the List screen displays, you can enter a single command for processing just one CPUID, or enter several commands at once when you have several CPUIDs to process.

To update three of your CPUIDs and delete the fourth one, you type U beside each of the first three CPUIDs, type D beside the fourth CPUID, and then press ENTER, as in the following screen illustration:

```
AUH001               MANTIS Authorized CPUID List            YYYY/MM/DD HH:MM:SS
Current Running CPUID: 2222333344440000              MANTIS Release: 5501.xxx
Action  CPU ID            Start Date  Expiration  Licensed Terminals  Lead Days
------  ----------------  ----------  ----------  ------------------  ---------
  U     1111222233330000  YYYY/MM/DD  YYYY/MM/DD                          60
  U     2222333344440000  YYYY/MM/DD  UNLIMITED                           60
  U     3333444455550000  YYYY/MM/DD  YYYY/MM/DD                          60
  D     1111111111110000  YYYY/MM/DD  UNLIMITED                           60




AUHACMI:Enter I(insert) and CPUID, U(update), D(delete), V(view), or CANCEL
```

The Cincom Product Authorization screen, in update mode, displays for the first CPUID on your list. When you complete this screen and press the CANCEL key, the Authorized CPUID is redisplayed with 'U' beside the next CPUID. Press ENTER to process that CPU and so on.

When you access the Authorized CPUID List screen during this process, you'll notice that the system replaces each command (U or D, in this case) with an asterisk when processing is completed. This is helpful when you need to determine whether you have processed a particular CPUID.

♦ When a Cincom Product Authorization screen displays for processing, the fields are protected or modifiable, depending on the command you entered for the CPUID:

  - Update—Only the Feature field is protected.

  - Insert—Only the Feature field is protected.

  - View—All fields are protected.

  - Delete—All fields except Password are protected.
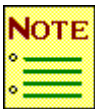
NOTE
Be aware that updates you enter during this sign-on period do not become active until you terminate MANTIS. Reinitialize MANTIS for your next sign-on period.

The following screen shows the Cincom Product Authorization screen for the selected CPUID. The message "AUHAUUA: Enter CPUID password and new dates for features or press CANCEL to exit" indicates the user can enter new data for this CPUID in a blank field, or type over existing data in a populated field. Here the user has entered the product authorization password and feature expiration dates for QRW, Entity Transformers, and Reusable Component Engineering.

```
AUT002                  CINCOM Product Authorization        YYYY/MM/DD HH:MM:SS
                         MANTIS Release 5501.xxx
CPU ID              2222333344440000    Password
Licensed Terminals                      Expiration Warning Lead Days    60
MANTIS Start Date        YYYY/MM/DD     MANTIS End Date         UNLIMITED
-------------------------------------------------------------------------------
Feature                  Expiration Date  Feature                 Expiration Date
--------------------- ---------------  --------------------- ---------------
QRW                      yyyy/mm/dd      HPO
XREF                                     Entity Transformers     yyyy/mm/dd
Component Engineering    yyyy/mm/dd      AD/Advantage
AD/A RDM Gen                             MVS/ESA or OS/390 DB2
SUPRA Server SQL                         VSE/ESA SQL/DS or DB2
DL1                                      MANTIS Search Facility
SAP Access                               WebSphere MQ Interface
DBCS                                     Run Only




AUHAUUA:Enter CPUID password and new dates for features; press CANCEL to exit
```

After pressing ENTER, the message "UHAUPA: CPUID updated, press CANCEL to exit" indicates the update was processed.

If you press the CANCEL key, the Authorized CPUID List screen displays and the system is ready to process another CPUID or advance to the MANTIS Utility Selection Menu.

When you press ENTER, the Cincom Product Authorization screen for the CPUID displays but is protected to confirm that this is the CPUID you want to delete.

Follow the procedures for deleting as they display step-by-step in the Message Line. PF7 confirms the delete. If your keyboard does not have a PF7 key, type PF7 in the lower right corner of the screen. After deleting, press the CANCEL key to return to the Authorized CPUID List screen (or to access the Cincom Product Authorization for the next CPUID if you specified this action on the Authorized CPUID List screen).

CPUID

Description	*Required.* Provide the identification string (usually 16 characters including a model number and ending with four zeros) for valid CPUs.
Default	The CPUID on which MANTIS is currently running. The default is only supplied for the first entry. After the first entry, you must supply a valid CPUID entry.
Format	1-16 alphanumeric characters.

Considerations

♦ When this screen is re-accessed, all CPUIDs authorized to use MANTIS display. If you are using an IBM-compatible mainframe with a different CPUID scheme, you may need to enter a different value in this field. You can press the EOF key or leave this field blank to obtain the CPUID when it is unknown.

♦ Each CPUID is a string of several numbers that indicate specific hardware features. The first four digits in each CPUID can vary. Only digits 5–12 are unique for each CPU.

♦ If one of your CPUIDs varies only in the third and fourth digits, you do not need to redefine it on the Authorized CPUID List screen or revise any information for it on the Cincom Product Authorization screen. The system recognizes this as the same CPUID you first recorded. For example, each of the following CPUIDs are considered identical, although their processor numbers are different:

```
5515555555550000
5526555555550000
5537555555550000
```

Start Date

Description   Displays the starting date for each CPUID. You cannot enter the Start Date from the Authorized CPUID List Screen.

Consideration This field should be filled with the MANTIS Start Date that is supplied with the authorization information you receive from Cincom. You will not be able to run MANTIS prior to the Start Date.

End Date

Description   Displays the expiration date for each CPUID, or UNLIMITED. You cannot enter expiration data from the Authorized CPUID List screen.

Consideration When you are inserting a new CPUID, this field initially displays blank on the Authorized CPUID List screen. It is updated only from the Cincom Product Authorization screen.

Licensed Terminals

Description   Displays the maximum number of terminals for each CPUID. You cannot enter terminal information from the Authorized CPUID List screen.

Consideration When you are inserting a new CPUID, this field initially displays blank on the Authorized CPUID List screen. It is updated only from the Cincom Product Authorization screen.

Lead Days

Description   *Optional.* Indicates the number of days prior to the expiration of MANTIS or a facility that the expiration warning message (SGNEXPW:) is presented.

Cincom Product Authorization

After you enter an action on the Authorized CPUID List screen and press ENTER, the Cincom Product Authorization screen (see the following screen illustration) displays for the first selected CPUID on the list screen. If you selected additional CPUIDs, the Cincom Product Authorization screen displays repeatedly for each of the remaining CPUs on your list.

This screen displays the empty fields you must complete, the protected fields that do not require any response from you, and the populated fields with default values you can accept or modify. Information for this screen is only required the first time you bring up the system. Should the system ever go down or be shut down manually, you do not reenter the screen information.

You can, however, access the screen again to update, delete, or view any CPUID and related data by choosing option 1 from the Utility Selection menu. A new password supplied by Cincom is necessary if you make changes on the Cincom Product Authorization screen.

```
AUT002                   CINCOM Product Authorization          YYYY/MM/DD HH:MM:SS
                           MANTIS Release 5501.xxx
CPU ID                 2222333344440000     Password
Licensed Terminals                          Expiration Warning Lead Days    60
MANTIS Start Date         YYYY/MM/DD     MANTIS End Date          YYYY/MM/DD
------------------------------------------------------------------------------
Feature                 Expiration Date  Feature                  Expiration Date
--------------------- ---------------    --------------------- ---------------
QRW                                      HPO
XREF                                     Entity Transformers
Component Engineering                    AD/Advantage
AD/A RDM Gen                             MVS/ESA or OS/390 DB2
SUPRA Server SQL                         VSE/ESA SQL/DS or DB2
DL1                                      MANTIS Search Facility
SAP Access                               WebSphere MQ Interface
DBCS                                     Run Only


AUHAUUA:Enter CPUID password and new dates for features; press CANCEL to exit
```

MANTIS supplies the first CPUID from your Authorized CPUID List screen and positions the cursor in the Password field. You enter information on this screen that relates ONLY TO THE CPUID DISPLAYED. Do not press ENTER until you have completed each of the required fields for the displayed CPUID.

CPUID

    Description   Displays the current CPUID being processed. You cannot modify CPUID information from this screen.

Licensed Terminals

    Description   *Required*. Indicates the number of terminals that can be signed-on at any given session.

    Options   0–99999

    Consideration   Entering zero (that displays on your screen as a blank) indicates an unlimited number of terminals can sign on.

Password

    Description   *Required*. Specifies the 8-digit product authorization password supplied by Cincom for this CPU.

    Consideration   You must enter the correct password here before any of the changes or values on this screen are affected. Do not confuse this product authorization password with the user password you enter at the sign-on screen.

Expiration Warning Lead Days

Description   *Optional.* Indicates the number of days before expiration (of MANTIS or any feature) when a warning should appear at the sign-on screen.

Default   60 days before expiration

Options   0–999

Considerations

♦   When your contracted access to MANTIS or one of these features comes within lead days of the expiration date, a message that calculates how many days remain under your current contract displays during sign-on (see the Product Authorization Screen illustration on page 620). During this warning period, you must contact your Cincom representative (if one has not already contacted you) to renew your contract and obtain a new product authorization password for each active CPUID and any expiring feature(s), or MANTIS may no longer be used on that CPU.

♦   If you accepted the default period of 60 days when you completed the authorization screen, you can reset the warning to start 20 days before expiration. Re-access the screen by selecting option 1 of the MANTIS Utilities selection menu. Position the cursor in the Expiration Warning Lead Days field and change the lead number by typing 20 over the 60. Press ENTER.

♦   You can also change the wording of the warning message to provide further instructions to users at your site. See "MANTIS Messages Facility" on page 141 for the procedures. The message you are concerned with has code 'SGNEXPW:'.

MANTIS Start Date

Description   *Required.*   Indicates the Starting Date for MANTIS for this CPUID.

Options   *YYYY/MM/DD*   Specific MANTIS Start Date that is supplied with the authorization information you receive from Cincom.

Consideration You will not be able to run MANTIS on this CPU prior to the Start Date.

MANTIS End Date

Description *Required.* Indicates the Ending Date for MANTIS for this CPUID.

Options *YYYY/MM/DD* Specific expiration date for MANTIS.

<erase-eof> Deletes the expiration date

U (unlimited) UNLIMITED MANTIS (rather than a specific expiration date)

Consideration MANTIS End Date is supplied with the authorization information you receive from Cincom.

Feature

Description Displays the system-generated list of accessible features that the expiration information applies to. You cannot enter feature information in this field.

Expiration Date

Description *Optional.* Indicates the expiration date for this feature.

Options *YYYY/MM/DD* Specific expiration date for MANTIS features.

<erase-eof> Deletes an expiration date.

= Equates this entry to the previous entry's expiration date.

U (unlimited) UNLIMITED feature (rather than a specific expiration date).

General considerations

♦ If you have selected additional CPUIDs, a separate Cincom Product Authorization screen displays them each time you complete the current screen and press the CANCEL key.

♦ If you return to the Authorized CPUID List screen at any time during this process, you notice that the system replaces each I (insert command) with an asterisk beside the CPUIDs you have already processed.

♦ The features listed on this screen may vary from time to time, possibly displaying new options that you do not yet have authorization to use. You are not required to take any action or provide any additional information when a new feature displays.

♦ The features currently displayed on the Cincom Product Authorization screen are briefly described in the following table. You can contact your Cincom representative for more information.

MANTIS feature	Description
AD/Advantage	Provides application development tools and the standard MANTIS interface.
AD/A RDM Gen	Provides the capability to generate applications accessing RDM from AD/Advantage.
DBCS	Enables MANTIS Japanese and other DBCS language support.
ENTITY TRANSFORMERS	Transforms MANTIS entities into other MANTIS entities.
DLI	Provides access to DL/I database segments directly from your MANTIS program.
HPO	Includes program binding and the Shared Pool for the IBM mainframe.
MANTIS Search Facility	Provides string searching capabilities for MANTIS entities.
WebSphere MQ Interface	Provides an interface link to IBM's MQ Series.

MANTIS feature	Description
QRW	Accesses MANTIS Query Report Writer.
Component Engineering	Creates universal components that you define as part of a source program and then assemble into executable code.
Run Only	Supplies a run-only version of MANTIS.
SAP Access	Provides authorization to design and use external files with SAP access method.
MVS/ESA or OS/390 DB2	Supplies MANTIS SQL support for DB2.
VSE/ESA SQL/DS or DB2	Supplies MANTIS SQL support for DB2 for VSE and VM (formerly SQL/DS).
SQL/SUPRA	Supplies MANTIS SQL support for SUPRA 2.1 and above.
XREF	Creates a list that cross references MANTIS elements and entities.

Obtaining a 10-day temporary sign-on for an unlisted CPU

The instructions in "Running MANTIS to get a temporary authorized CPUID record" on page 628 will enable you to run MANTIS on a new CPU for 10 days. Use these instructions for:

♦   Recovering from a disaster

♦   Installing a new CPU

Unforeseen circumstances at your user site may force you to run MANTIS with a new CPUID—that is, a CPUID that is not included on the Authorized CPUID List screen. To do this, you can establish a 10-day temporary sign-on for this CPU. This temporary sign-on allows you to maintain uninterrupted access to MANTIS while you obtain a product authorization password for the new CPU.

In order for the 10-day temporary sign on to take effect, you must have at least one CPUID record defined to MANTIS on the cluster you are moving to the new CPU.

MANTIS builds a new, 10-day Authorization Security Record for the current CPU from the other Authorization records that exist on the cluster. The new, 10-day extended record is a union of features from the other records. MANTIS uses the highest number of licensed terminals from among the other records . All dates are valid for 10 days. At the end of the 10 days, MANTIS expires.
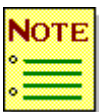
If you know in advance what your new or recovery CPUID will be: You can get a CPUID and a profile, and add them to your cluster, before you need to. To get an additional password, call your local Cincom office during normal business hours. Provide Cincom with:

♦   The date of the test or conversion

♦   The CPUID

Alternate sign-on or front-end applications

Many MANTIS customers use the MASTER:SIGN_ON program to determine which facilities or applications a user has when signing on to MANTIS. In some cases, front-ends have been constructed that get control before MANTIS.

To help with the procedure described in "Running MANTIS to get a temporary authorized CPUID record" on page 628, Cincom recommends that you reserve a single transaction ID, defined to CICS, that points directly to MANTIS. The transaction ID should provide a path through MASTER:SIGN_ON, directly to CONTROL:SIGN_ON, with no values in the SIGN_ON parameters. That is, the transaction ID should bypass alternate sign-on. This transaction ID will always present the SIGN_ON screen, allowing the MASTER User to sign on.

Running MANTIS to get a temporary authorized CPUID record

When you run MANTIS for the first time, perform the following:

For HPO users who load the Shared Pool either through the DFHPLT table or through serial terminal at CICS startup. Before bringing up CICS on the new CPU, do one of the following (whichever is appropriate to your system):

♦ Temporarily remove the capability to load the Shared Pool through the DFHPLT table.

♦ Temporarily remove the capability to load the Shared Pool through a serial terminal at CICS startup.

1. Start CICS, if necessary.

2. Enter the MANTIS transaction.

   Once CICS is active, the first person to enter the MANTIS transaction receives this message:

   ```
   SGNMCRA:MANTIS cannot run on this CPU, press ENTER for a 10
     day authorization
   ```

3. Press ENTER.

   Expiration messages for MANTIS and for the options that you are authorized to use will appear. For example:

   ```
   SGNEXPW:MANTIS is expiring in 10 days
   SGNEXPW:PC CONTACT is expiring in 10 days
   SGNEXPW:SQL/DB2 is expiring in 10 days
   SGNEXPW:SQL/DS is expiring in 10 days
   SGNEXPW:ENTITY TRANSFORMERS is expiring in 10 days
   SGNEXPW:REUSABLE COMP. MGT. is expiring in 10 days
   SGNEXPW:MANTIS SEARCH FAC. is expiring in 10 days
   ```

4. Press ENTER.

   The MANTIS SIGN_ON screen will appear.
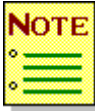
> **NOTE**
>
> Cincom recommends that you perform steps 5 and 6, but these steps are not required.

5. Sign on to the MASTER User.

6. Change Lead Days to five so that your users do not receive the expiration messages (update Lead Days directly on the Authorized CPUID List screen).
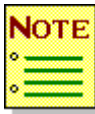
> **NOTE**
>
> To find out how to change Lead Days, see "Authorized CPUID List" on page 612.

Obtaining a 15-day extension when MANTIS expires on a CPU

When MANTIS expires on a CPU, the following message appears on an unformatted screen:

```
SGNMEXA:MANTIS authorization has expired, MASTER user press 'PF4'
  to continue
```

Press PF4 to pass control to the Authorization Facility. To continue using MANTIS, perform one of the following:

♦ Contact your Cincom representative in order to establish a new product authorization password and expiration date(s) for this CPU.

♦ Activate a 15-day extension by performing the following:

1. Enter an "X" to the left of the CPUID

2. Press PF7.

NOTE	You can activate a 15-day extension only once per CPUID. Within the 15 days of the extension, obtain a regular password from your Cincom representative. After 15 days with a temporary password, you will no longer have access to MANTIS, or any of its features, on that CPU.

10

User exits and utility programs

Introduction

This chapter describes user exits and utility programs. User exits enable you to modify MANTIS's normal processing. Utility programs enable you to change a MANTIS task's environment by calling an interface program or executing a non-MANTIS program.

User exits

MANTIS provides several user exits that you can tailor to your installation. For an overview of user exits, see "Overview of user exits" on page 633. These user exits enable you to:

- ♦ **Monitor external file access.** See "External files exit" on page 637.

- ♦ **Control printer and terminal datastreams.** See "Printer write exit" on page 642.

- ♦ **Check program security.** See "Program load exit" on page 646.

- ♦ **Use a split SETPRAY cluster.** See "SETPRAY cluster exit" on page 648.

- ♦ **Change the way MANTIS handles string comparisons.** See "String comparison exit" on page 656.

- ♦ **Check security, handle nonstandard devices, and debug errors.** See "Terminal write exit" on page 659.

- ♦ **Switch between uppercase and lowercase when designing screens and prompters.** See "Facilities Screen and Prompter Design pre/post processing exits" on page 663.

- ♦ **Prevent unauthorized updates to a production system.** See "Facilities transfer pre/post security exits" on page 664.

You can also use the user exits to gather statistics while MANTIS is processing.

All user exits are optional. MANTIS automatically invokes any of the user exits that exist (are linked with MANTIS). If a user exit does not exist, MANTIS continues normal operations.
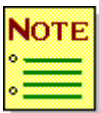
> **NOTE**
>
> The user exits provided on the install tapes are samples only. You should remove them from the linkdeck until they are reviewed or changed for your needs. Review the supplied exits in the installed OS/390 MACLIB or VSE/ESA sublibrary for applicability to your environment.

Utility programs

MANTIS provides several utility programs that you can tailor to your installation. These utility programs enable you to:

♦ **Get control when an error condition occurs at a CICS terminal node.** See "Node error programs" on page 671.

♦ **Cleanup temporary storage for a MANTIS terminal whose disconnection was caused by an error on the terminal.** See "Lost terminal recovery programs" on page 673.

♦ **Import all entities on the Universal Export Facility file into the signed on user.** See "Background task import program" on page 674.

♦ **At CICS startup, load the shared pool from either the Program Load Table or the sequential terminal facility.** See "Shared Pool load program" on page 674.

♦ **Control where uppercase translation takes place.** See "CICS UCTRAN manipulation program" on page 675

User exits

Overview of user exits

MANTIS communicates with each user exit through an exit interface area. When a request is passed to the exit, the exit determines if the request should be processed by passing a response back to MANTIS.

Invocation of MANTIS user exits follows IBM system standards. On entry to the user exit, Registers 1, 12, 13, and 14 contain the following:

♦ Register 1 contains the address of the parameter list. The list contains the following entries:

- Address of the fixed parameter area (Fixed parameter area details are explained below.)

- Address of the variable parameter area (Variable parameter area details are explained with each exit.)

- Address of the Environment Specific Parameter List (ESPL). In the CICS environment this list contains the address of Exec Interface Storage and the address of Exec Interface Block. Currently, ESPL is not used in other environments.

♦ Register 12 contains the address of the user Task Control Area (TCA), which contains the Transaction Work Area (TWA), or in non-CICS environments the pseudo-TCA used by MANTIS as a work area.

♦ Register 13 contains the address of a standard 72 byte save area.

♦ Register 14 contains the address of the return point.

In a CICS environment the Environment Specific Parameter List contains:

♦ First four bytes contain the address of the Exec Interface Storage (EIS).

♦ Next four bytes contain the address of the Exec Interface Block (EIB).

An additional 72 byte save area is reserved as well as the standard save area (addressed by Register 13), which can be used by each exit as a save area when the exit calls additional external procedures.

Before reviewing information on the exits, consider the following:

♦ The exits must be link-edited with MANTIS and must be written in ASSEMBLER as QUASI-REENTRANT in CICS.

♦ An exit used for both online and batch processing must be system-independent. If it is not system-independent, you must have one version of the exit for online processing and another version for batch processing.

The first four bytes of the parameter list passed to the exit in Register 1 point to the fixed parameter area that is used by all exits (that is, fixed for each exit). The second four bytes of the parameter list point to the variable parameter area that contains parameters specific to each exit.

A response reply area is provided in the fixed parameter area. A response code is set by the exit and varies according to the type of exit. The following table shows the fixed parameter area:

Name	Length	Format	Description
CSOXRESP	4	Binary	RESPONSE REPLY AREA
CSOXUSER	16	Character	USER NAME
CSOXPWD	16	Character	PASSWORD
CSOXTMID	8	Character	TERMINAL IDENTIFIER
CSOXTRID	8	Character	TRANSACTION IDENTIFIER
CSOXLUSR	16	Character	LIBRARY USER NAME
CSOXLPGM	32	Character	LIBRARY PROGRAM
CSOXSCRA	48	User Defined	USER SCRATCH AREA

RESPONSE REPLY AREA

Description   *Required.* Used to communicate between MANTIS and the exit. When returning from the user exit, MANTIS acts upon the response returned from the exit.

Default   0

Options   0   Process the request/operation.

                   1   Cancel the request/operation.

Consideration When executing the String Comparison user exit, values are + (positive value), - (negative value), and 0.   All other exits use 0 or 1 for values. See "String comparison exit" on page 656 for more information.

USER NAME

Description   *Display.* Set to low values (binary zeros) on entry to each exit prior to sign-on. After sign-on, USER NAME contains the current MANTIS user name.

PASSWORD

Description   *Display.* Set to low values (binary zeros) on entry to each exit prior to sign-on. After sign-on, PASSWORD holds the current user password.

TERMINAL IDENTIFIER

Description   Displays the current terminal ID.

TRANSACTION IDENTIFIER

Description   Displays the current transaction ID.

LIBRARY USER NAME

Description   Displays the library name of the currently executing program.

LIBRARY PROGRAM NAME

Description   Displays the name of the program currently executing.

USER SCRATCH AREA

Description   *Optional.* This area can be used as a general scratch pad area to hold user data that is passed from exit to exit, or to hold calls to additional external procedures within each task.

Default   MANTIS initially sets this parameter to binary zeros at the start of each task (e.g., a logical unit of work is considered a task when running in pseudoconversational mode). From that point, MANTIS never updates this area between exit calls.

General considerations

- ♦ An invalid updateable parameter returned from any of the user exits results in a fault message containing the name of the user exit at fault.

- ♦ Conditions that cause an EXE fault include:

  - Setting a response reply code to something other than 0 (zero) or 1

  - Setting a FAULTMSG that has a length greater than 39 bytes

  - Setting the current TIOA size greater than the maximum allowed TIOA size

  - Specifying an invalid Write Control Character

- ♦ You can set a fault message in the SETPRAY cluster exit and external files exit for operations that are canceled.

- ♦ The supplied DSECT name for the parameter areas used by the exits is CSOXDSCT.

External files exit

You can use the external files exit (CSOXEXTF) to perform security checking (using packages such as RACF/ACF2), monitor and disallow certain types of accesses (e.g., deletions of certain records) and allow greater flexibility when gathering file access statistics.

The external files exit is invoked for all external file accessing routines that supply a key. The External Files Exit allows or denies access to external VSAM files. If access is denied by the exit, an error and optional fault message are returned. The external files exit is not invoked for sequential access (NEXT or PRIOR), except for the positioning call within the file.

Consider the following:

♦ You can define a table of file names in the exit to check external file names and allow or deny processing according to the operation being performed.

♦ The exit must have an entry point name of CSOXEXTF.

External files exit interface

The external files exit interface consists of a two-word parameter list. The first word points to the fixed parameter area (see the table on page 634).

Name	Length	Format	Description
EXTFOPER	4	Binary	OPERATION BEING PERFORMED
EXTFMODE	4	Binary	MANTIS ACCESS MODE
EXTFFMSG	40	1-byte binary followed by character	FAULT MESSAGE AREA
EXTFTYPE	4	Binary	FILE TYPE
EXTFFNME	8	Character	FILENAME
EXTFKEYA	4	Binary	KEY ADDRESS

OPERATION BEING PERFORMED

Description Displays a number indicating which action is being performed.

Options
1 Delete a record using the specified key.

2 Retrieve a record using the specified key.

3 Retrieve a record using the specified key for update.

4 Position within the data set using the specified key.

5 Insert a record using the specified key.

6 Delete all records.

7 First access to the file.

MANTIS ACCESS MODE

Description   Displays a number indicating which action is being performed.

Options   1   Read-only access authorization.

2   Update access authorization.

3   Insert/delete access authorization.

Considerations

♦   File access authorization is based on the password in the external file view of the user.

♦   This parameter is only relevant when OPERATION BEING PERFORMED is 7.

FAULT MESSAGE AREA

Description   *Optional.* Contains a fault message substitution text if file operation is canceled.

Considerations

♦   You can set the message in this parameter using the exit.

♦   The first byte of this parameter must be a 1-byte binary value that indicates the length of the message you are providing. The actual message follows this length byte.

♦   The maximum length of the message is 39.

♦   The message displays in the FSI if the function FSI(*file*,*msg*) is used. For more information on the FSI function, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

FILE TYPE

Description   Displays a number representing the type of VSAM file.

Options   1 Indexed, Key Sequence Data Set (KSDS).

                    2 Sequential, Entry Sequence Data Set (ESDS).

                    3 Numbered, Relative Record Data Set (RRDS).

Consideration This parameter is set by MANTIS and is not updateable by the exit.

FILENAME

Description   Displays the name of the external file being accessed.

Considerations

   ♦   This parameter is set by MANTIS and is not updateable by the exit.

   ♦   You can check the file name against a table you set up in the exit, or
       check the file name using other security (such as RACF) to
       determine whether to process the request or to deny the access.

KEY ADDRESS

Description   Displays the address of the key to the record being accessed.

Considerations

   ♦   This parameter is set by MANTIS and is not updateable by the exit.

   ♦   You can check the key of the record against a table you set up in the
       exit, or check the key using other security (such as RACF) to
       determine whether to process the request or to deny the access.

   ♦   This parameter does not contain a valid value when OPERATION
       BEING PERFORMED is 7 (first access to the file).

External files exit responses

The external files exit responds to MANTIS via the fixed parameter area RESPONSE REPLY AREA (see the table on page 634) and on return from the exit, MANTIS acts upon the following responses:

Value	Indicates
0	**Process the request.**
1	**Cancel the request.** In this case, you can update the FAULT MESSAGE AREA using the exit. This response causes the MANTIS file handling routine to exit with an error and the FSI function message is set with the user message, if present, and an FSI value of CANCELED. See the following example of how to access the FSI value.

Consider the following:

♦ The following new FSI value of CANCELED was added for user exits:

```
100 TEXT MESSAGE(40), EXTERNAL_KEY(10)
200 ACCESS
  EXTERNAL_FILE("USERLIB:FILEVIEW","INSERT_PASSWORD")
300 TRAP EXTERNAL_FILE ON
400 OBTAIN EXTERNAL_KEY
500 GET EXTERNAL_FILE(EXTERNAL_KEY)
600 IF FSI(EXTERNAL_FILE,MESSAGE)="CANCELED"
700 .SHOW MESSAGE
800 END
```

♦ An invalid response or an invalid message length results in a fault.

Sample external files exit

An external files exit is provided with MANTIS on the installation tape or as part of the installation process. This exit prevents a deletion.

CSOXEXTF is provided:

♦ In the OS/390 source library

♦ In the VSE/ESA MANTIS sublibrary, as member CSOXEXTF.A

Printer write exit

You can use the printer write exit (CSOXPRNT) for security checking (using packages such as RACF/ACF2), for handling nonstandard devices, for debugging errors, for remote spooling, and for greater flexibility when gathering printer usage statistics.

In all environments, the printer write exit is invoked when a datastream is about to be sent to a printer. According to the response returned from the exit, continued processing of the print request is allowed or the printer write request is bypassed.

In addition to the CSOXPRNT printer write exit, you can send output from CONVERSE, SHOW, or LIST to a printer exit facility program specified on the OUTPUT PRINTER VIA command or to the default printer exit facility program defined in the user profile.

The CSOXPRNT printer write exit is used as a general systemwide exit and the printer exit facility is used to control unique printing specifications.

The exit specified with OUTPUT PRINTER VIA or the default printer exit defined in the user profile takes precedence over CSOXPRNT. For information on defining a default printer exit in a user profile, see "User Profile Design" on page 48. For information on OUTPUT PRINTER VIA, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.
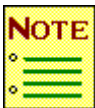
NOTE	The entry point name must be CSOXPRNT.

Printer write exit interface

The printer write exit interface consists of a two-word parameter list. The first word points to the fixed parameter area (see the table on page 634). The second word points to the variable parameter area that contains parameters specific to this exit (see the following table):

Name	Length	Format	Description
PRNTDATA	4	Binary	DATASTREAM ADDRESS
PRNTMAXT	2	Binary	MAXIMUM TIOA SIZE
PRNTCURT	2	Binary	CURRENT TIOA SIZE
PRNTWCI	1	Binary	WRITE CONTROL INDICATOR
PRNTWCC	1	Binary	WRITE CONTROL CHARACTER
PRNTPID	8	Character	PRINTER IDENTIFIER
PRNTPC	1	Binary	DATASTREAM CLASS

The printer write exit interface differs slightly when processing online than when processing in batch or CMS MANTIS. In online processing, the datastream is sent to a physical device. In batch and CMS MANTIS, the simulated terminal is output to a file, and the exit is called prior to outputting each line of the simulated terminal.

DATASTREAM ADDRESS

Description *Optional.* Points to the Terminal Input/Output Area (TIOA) containing the data that is about to be sent to the printer.

Considerations

♦ You can change the contents of the area addressed by this parameter.

♦ In batch and CMS MANTIS, the DATASTREAM ADDRESS points to the full character print line and the first character of the print line is the print control character.

MAXIMUM TIOA SIZE

Description Displays the maximum size of the TIOA.

Consideration This parameter is set by MANTIS and is not updateable by the exit.

CURRENT TIOA SIZE

Description   *Optional.* Holds the current length of the data in the TIOA.

Considerations

- ♦ This parameter is set by MANTIS.

- ♦ You can adjust the current length of the data downward or upward (to the maximum value in MAXIMUM TIOA SIZE) if required.

PRINTER IDENTIFIER

Description   *Optional.* Holds the current printer ID and is only used for online processing.

Consideration You can change the printer ID in this parameter to any valid printer ID.

DATASTREAM CLASS

Description   Displays the current datastream class.

Default   The datastream is in 3270 or SCS format, according to the ATTRIBUTE(PRINTER) statement. For more information on this statement, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

Options   0 3270 Format

                    1 SCS Format

Considerations

- ♦ This parameter is set by MANTIS and is not updateable by the exit.

- ♦ This parameter is only used for online processing.

WRITE CONTROL INDICATOR

Description   *Display.* Not used for the printer write exit.

Default   Preset to X'F5'.

Consideration This parameter is set by MANTIS and is not updateable by the exit.

WRITE CONTROL CHARACTER

Description   *Display.* In batch and CMS MANTIS, the WRITE CONTROL CHARACTER is not used and instead is set by MANTIS to the current row number of the line being printed. In all other environments this parameter is not used.

Default   Preset to X'C8'.

Consideration This parameter is set by MANTIS and is not updateable by the exit.

Printer write exit responses

The printer write exit responds to MANTIS via the fixed parameter area RESPONSE REPLY AREA (see the table on page 634) and on return from the exit, MANTIS acts upon the following responses:

Value	Indicates
0	**Process the request.** The data stream and/or its length may have been changed by the user exit.
1	**Do not process the request.** In this case, MANTIS does not issue the write request.

An invalid response, or an invalid TIOA size returned from the exit results in an EXE fault.

Sample printer write exit

A sample printer exit is provided with MANTIS on the installation tape or as part of the installation process. This exit writes the datastream to CICS temporary storage for debugging. The exit does not write to temporary storage if running in batch.

CSOXPRNT is provided:

♦   In the OS/390 source library

♦   In the VSE/ESA MANTIS sublibrary, as member CSOXPRNT.A

Program load exit

You can use the program load exit (CSOXPROG) to perform security checking (using packages such as RACF/ACF2), monitor and disallow certain program accesses, and allow greater flexibility when gathering program use statistics.

The program load exit is invoked the first time a program is loaded by either a CHAIN, external DO, or RUN A PROGRAM BY NAME. If a program being loaded executes an external DO, this exit is called only the first time the external DO is executed.

The entry point name must be CSOXPROG.

Program load exit interface

The program load exit interface consists of a two-word parameter list. The first word points to the fixed parameter area (see the table on page 634). The second word points to the variable parameter area that contains parameters specific to this exit (see the following table):

Name	Length	Format	Description
PROGUSER	16	Character	LIBRARY USER
PROGPGM	32	Character	LIBRARY PROGRAM

LIBRARY USER

Description   Displays the user library containing the program to be loaded.

Consideration This parameter is set by MANTIS and is not updateable by the exit.

LIBRARY PROGRAM

Description   Displays the name of the program to be loaded.

Consideration This parameter is set by MANTIS and is not updateable by the exit.

Program load exit responses

The program load exit responds to MANTIS via the fixed parameter area RESPONSE REPLY AREA (see the table on page 634) and on return from the exit, MANTIS acts upon the following responses:

Value	Indicates
0	**Process the request.**
1	**Do not process the request.** In this case, MANTIS faults with an error message

Sample program load exit

A sample program load exit is provided with MANTIS on the installation tape or as part of the installation process. This exit checks the user name and program name against a table of users having restricted programs. The table is defined in the exit. During execution, the exit first checks for one of the following conditions:

♦ A CONTROL program is being loaded.

♦ MANTIS is initializing.

♦ The program being loaded is saved in the current user's library (that is, a developer is running a program saved in the developer's library).

If one of these conditions is true, the exit returns a response code of zero, allowing the program to be loaded and processing to continue.

If one of these conditions is not met, the exit verifies if the user library is a restricted one and if it is, the exit verifies if the program attempting to be loaded is in the restricted program table.

If the program is not found in the restricted list, the program is loaded and processing continues. Otherwise, a PLE (Program Load Error) fault occurs.

CSOXPROG is provided:

♦ In the OS/390 source library

♦ In the VSE/ESA MANTIS sublibrary, as member CSOXPROG.A

SETPRAY cluster exit

The SETPRAY cluster exit (CSOXSETP) can access a MANTIS SETPRAY cluster that was split across several physical data sets. Splitting the cluster to multiple data sets may help to alleviate file-access contentions and aid support and maintenance. The SETPRAY cluster exit can also be used to perform security checking (using packages such as RACF/ACF2), monitor and change or disallow certain entity or record accesses, and allow greater flexibility when gathering entity, user, and/or cluster usage statistics.

The SETPRAY cluster exit is invoked by MANTIS to allow the exit to change the SETPRAY file name to use for the access. This file name can be determined by the exit according to the SETPRAY key segment information passed to the exit.

If you use MANTIS internal files extensively, you can split these files to separate data sets, relieving potential bottlenecks on the main cluster, as illustrated in the following figure:

```
            MANTIS

ENTRY PROG1
.SCREEN MAP ("X1:SC1")
.FILE REC("X1:FIL1")
.WHILE MAP<>"CANCEL"
..GET REC(KEY)
..IF REC="END"
...SHOW "Last Record";
```

```
           SETPRAY

           Control
           Master
```

```
           CSOXSETP

Table 1:
     CONTROL
     MASTER
     --use file SETPRAY
Table 2:
     A1 to M1
     --use file CLUS001
Table 3:
     N1 to Z1
     --use file CLUS002
```

```
  CLUS001          CLUS002

   Users            Users
  A1 - M1          N1 - Z1
```

SPLIT MANTIS CLUSTER CONFIGURATION

```
- Multiple Physical Datasets
- One "Logical" Cluster
```

```
EXIT DETERMINES:
 "Use CLUS002
  for access"
```

If you have multiple systems using MANTIS, you can use this exit to split all CONTROL and MASTER users to one data set to be shared by all systems (as illustrated in the following figure). Only one of these systems would have update access to the data set, which could be used by the system administrator to apply maintenance and/or product authorization.
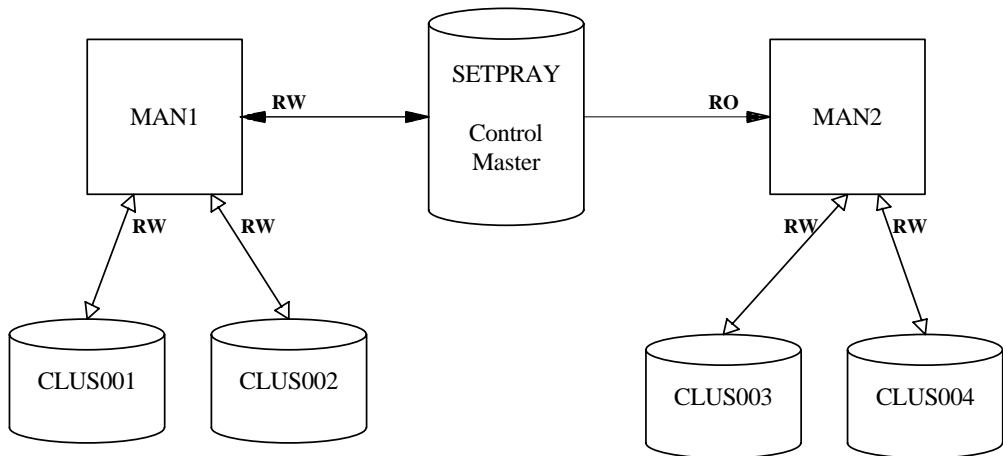
Users of CMS MANTIS can establish a multi-user environment by creating a cluster that contains all CONTROL and MASTER entities and giving all users read-only access.

When using the SETPRAY cluster exit, consider the following:

♦ The entry point name must be CSOXSETP.

♦ Link-edit the exit with the MANTIS nucleus. The exit must also be link-edited with the Batch MANTIS and MANTIS1 load modules. (MANTIS1 lets you access the cluster from external batch programs. Refer to batch processing in *MANTIS Facilities, OS/390, VSE/ESA*, P39-5001, for more information.) Whenever you update the table in the exit, you must relink it into all required load modules.

♦ All internal file-accessing routines that have a key supplied invoke this exit. You can change the cluster file name in the exit.

♦ CSOXSPLT is a MANTIS program and an object-code-only supplied user exit that splits off an existing SETPRAY cluster into multiple data sets. For more information, see "Split SETPRAY Utility" on page 196.

♦ The C$OPFILE macro should be used with this exit for Batch MANTIS processing. See "C$OPFILE Macro" on page 316.

♦ SETPRAY and CSOP are accepted as equivalents. For this reason, do not use CSOP as a DDname for a split SETPRAY file or external file.

SETPRAY cluster exit interface

The SETPRAY cluster exit interface consists of a two-word parameter list. The first word points to the fixed parameter area (see the table on page 634). The second word points to the variable parameter area that contains parameters specific to this exit (see the following table):

Name	Length	Format	Description
SETPOPER	4	Binary	OPERATION BEING PERFORMED
	4	---	MODE
SETPFMSG	40	1-byte binary length followed by character	FAULT MESSAGE AREA
SETPFNME	8	Character	FILENAME
SETPKEYS	3	Binary	KEY SEGMENT
SETPUC	1	Binary	ACTIVE USER'S USER CODE

OPERATION BEING PERFORMED

Description   Displays a number indicating which action is being performed.

Options   1   Delete a record using the specified key.

2   Retrieve a record using the specified key.

3   Retrieve a record using the specified key for update.

4   Position within the data set using the specified key.

5   Insert a record using the specified key.

6   Delete all records.

Consideration   This parameter is set by MANTIS and is not updateable by the exit.

MODE

Description   *Reserved.* Not currently used for CSOXSETP.

Consideration   This parameter is not updateable by the exit.

FAULT MESSAGE AREA

Description   *Optional.* Contains a fault message substitution text if file access is denied.

Considerations

♦   You can set the message in this parameter using the exit.

♦   The first byte of this parameter must be a 1-byte binary value that indicates the length of the message you are providing. The actual message follows this length byte.

♦   The maximum length of the message is 39.

♦   This message displays in the FSI if the function FSI(file,msg) is used. For more information on the FSI function, refer to *MANTIS Language, OS/390, VSE/ESA*, P39-5002.

FILENAME

Description   *Optional.* Specifies the file name of the data set to be accessed.

Default   SETPRAY

Consideration   You can update this parameter in the exit with the file name of the cluster to be accessed.

KEY SEGMENT

Description   Displays the first three bytes of the MANTIS SETPRAY key, which consists of one byte for the user code and two bytes for the file entity type.

Considerations

♦   This parameter is set by MANTIS and is not updateable by the exit.

♦   For information on user codes and file codes, see "Display File Codes" on page 169 and "Display User Codes" on page 172.

♦   The CSOXSPLT utility also provides the user and file codes. For further information, see "Split SETPRAY Utility" on page 196.

ACTIVE USER'S USER CODE

Description   *Display*. Contains the internal user code of the active MANTIS user. This internal code is associated with the displayable USER NAME found in the Fixed Parameter Area.

Considerations

♦   This parameter is set by MANTIS and is not updateable by the exit.

♦   Set to X'FF' on entry to exit prior to sign on.

SETPRAY cluster exit responses

The SETPRAY cluster exit responds to MANTIS via the fixed parameter area RESPONSE REPLY AREA (see the table 634) and on return from the exit, MANTIS acts upon the following responses:

Value	Indicates
0	**Process the request.** The file name returned in the FILENAME parameter is used for the request. On entry to the exit, the file name is set to the default (SETPRAY). If the exit does not update the file name, SETPRAY is used.
1	**Do not process the request.** In this case, you can update the FAULT MESSAGE AREA using the exit. This response causes the MANTIS file handling routine to exit with an error and sets the FSI function message with the user message, if present, and an FSI value of CANCELED. See below for an example of how to access the FSI value.

When using the SETPRAY Cluster exit, consider the following:

♦ The following new FSI value of CANCELED was added for user exits:

```
100 TEXT MESSAGE(40),MANTIS_KEY(10)
200 ACCESS MANTIS_FILE("USERLIB:FILEVIEW","INSERT_PASSWORD")
300 TRAP MANTIS_FILE ON
400 OBTAIN MANTIS_KEY
500 GET MANTIS_FILE(MANTIS_KEY)
600 IF FSI(MANTIS_FILE,MESSAGE)="CANCELED"
700 .SHOW MESSAGE
800 END
```

♦ For other accesses to entities such as screens and programs, MANTIS faults with the updated message provided by the exit or the default system message that depends on the type of file being accessed.

> **NOTE**
>
> The Master User should give careful consideration to canceling any request through CSOXSETP for files other than user-defined MANTIS internal files.

♦ An invalid response or an invalid message length results in an EXE fault.

Sample SETPRAY cluster exit

A SETPRAY cluster exit is provided with MANTIS on the installation tape or as part of the installation process. This sample exit can be used as a basis to implement the SETPRAY cluster exit simply by updating a table of key ranges and file names. The key range operates on the first three bytes of the SETPRAY key, which enables you to split the cluster according to the MANTIS user and entity type.

CSOXSETP is provided:

♦ In the OS/390 source library

♦ In the VSE/ESA MANTIS sublibrary, as member CSOXSETP.A

String comparison exit

The string comparison exit (CSOXSTRC) compares data in text strings in the desired collating sequence. This comparison is useful when data contains characters with accents, non-Roman characters, or mixed-data which do not collate in EBCDIC sequence. CSOXSTRC can also be used to compare strings containing ligatures (printed or written character consisting of two or more characters or letters joined together) and double characters (e.g., international compares such as the German S-set, or Jörg (with umlaut) = Joerg (without)).

In addition to the string comparison exit, MANTIS compares strings either by length, or by actual content. The Customization Macro contains a new parameter STRLENC=(Y)/(N). See page 302 for more information on the STRLENC= parameter.

If the exit exists, CSOXSTRC determines how the comparison is done. Otherwise, the comparison is determined by the Customization Macro.

NOTE

The string comparison exit is not invoked for CONTROL programs. CONTROL programs always compare by length. When the lengths are equal, the contents are compared.

When using the String Comparison exit, remember that the entry point name must be CSOXSTRC.

String comparison exit interface

The string comparison exit interface consists of a two-word parameter list. The first word points to the fixed parameter area (see the table on page 634). The second word points to the variable parameter area that contains parameters specific to this exit (see the following table):

Name	Length	Format	Description
STRCLHS	4	Binary	LEFT-HAND SIDE OF COMPARE
STRCRHS	4	Binary	RIGHT-HAND SIDE OF COMPARE

LEFT-HAND SIDE OF COMPARE

Description Displays the address of the string on the left of the comparison operator.

Considerations

♦ This parameter is set by MANTIS and is not updateable by the exit.

♦ The contents of the area addressed by this parameter is a binary halfword length followed by the character data. The halfword length does not account for the 2 bytes of the halfword.

RIGHT-HAND SIDE OF COMPARE

Description Displays the address of the string on the right of the comparison operator.

Considerations

♦ This parameter is set by MANTIS and is not updateable by the exit.

♦ The contents of the area addressed by this parameter is a binary halfword length followed by the character data. The halfword length does not account for the 2 bytes of the halfword.

String comparison exit responses

The string comparison exit responds to MANTIS via the fixed parameter area RESPONSE REPLY AREA (see the table on page 634) and on return from the exit, MANTIS acts upon the following responses:

Value	Indicates
-	(Negative value) The left-hand side string is less than the string on the right-hand side.
0	Both strings are equal in comparison.
+	(Positive value) The left-hand side string is greater than the string on the right-hand side.

Sample string comparison exit

A sample string comparison exit is provided with MANTIS on the installation tape or as part of the installation process. It compares the length of the strings first. If equal, it converts the strings to uppercase and does the comparison.

CSOXSTRC is provided:

♦   In the OS/390 source library

♦   In the VSE/ESA MANTIS sublibrary, as member CSOXSTRC.A

Terminal write exit

You can use the terminal write exit (CSOXTERM) for security checking (using packages such as RACF/ACF2), handling nonstandard devices, debugging errors, and allowing greater flexibility when gathering terminal write statistics.

In all environments, the terminal write exit is invoked when a data stream is about to be sent to a terminal. According to the response sent back from the exit, continued processing of the request is allowed, or the terminal write request is bypassed.

When using the Terminal Write exit, remember that the entry point name must be CSOXTERM.

Terminal write exit interface

The terminal write exit interface consists of a two-word parameter list. The first word points to the fixed parameter area (see the table on page 634). The second word points to the variable parameter area that contains parameters specific to this exit (see the following table):

Name	Length	Format	Description
TERMDATA	4	Binary	DATASTREAM ADDRESS
TERMMAXT	2	Binary	MAXIMUM TIOA SIZE
TERMCURT	2	Binary	CURRENT TIOA SIZE
TERMWCI	1	Binary	WRITE CONTROL INDICATOR
TERMWCC	1	Binary	WRITE CONTROL CHARACTER
TERMTNXT	8	Character	NEXT TRANSACTION ID

The interface differs slightly when processing online and when processing in Batch MANTIS. In online processing, the data stream is sent to a physical device, whereas in Batch MANTIS, the simulated terminal is output to a file and the exit is called prior to outputting each line of the simulated terminal.

DATASTREAM ADDRESS

Description   *Optional.* Points to the Terminal Input/Output Area (TIOA) containing the data that is about to be sent to the terminal.

Considerations

- ◆ You can change the contents of the area addressed by this parameter.

- ◆ In Batch MANTIS, the DATASTREAM ADDRESS points to the first character in the full character print line (the print control character).

MAXIMUM TIOA SIZE

Description   Displays the maximum size of the TIOA.

Consideration This parameter is set by MANTIS and is not updateable by the exit.

CURRENT TIOA SIZE

Description   *Optional.* Contains the current length of the TIOA.

Considerations

- ◆ This parameter is set by MANTIS.

- ◆ You can adjust the current length of the data downward or upward (to a maximum of the value in MAXIMUM TIOA SIZE) if required.

WRITE CONTROL INDICATOR

Description   *Optional*. Set to one of the following values by MANTIS on entry to the exit

Options   X'F1'   Write data to the terminal without erase.

X'F5'   Write data to the terminal with erase.

X'7E'   Write to the alternate screen with erase.

Considerations

◆ In CICS MANTIS, only X'F1' and X'F5' are valid and results in a CICS SEND request being made either with or without the ERASE parameter.

◆ In Batch MANTIS, this parameter is not used and is initialized to X'F1'.

◆ You can change this parameter to any of the previous options that are valid for your environment.

WRITE CONTROL CHARACTER

Description   *Optional*. Contains the current Write Control Character.

Considerations

◆ This parameter is set by MANTIS and is updateable by the exit.

◆ This parameter is not used for the Write Control Character in Batch MANTIS. Instead, it is set to the current row number of the line being printed.

NEXT TRANSACTION ID

Description   *Optional*. Contains the transaction ID that MANTIS will resume under when running in CICS pseudoconversational mode.

Considerations

◆ This parameter is set by MANTIS and is updateable by the exit.

◆ This parameter is only set for CICS.

Terminal write exit responses

The terminal write exit responds to MANTIS via the fixed parameter area RESPONSE REPLY AREA (see the table on page 634) and on return from the exit, MANTIS acts upon the following responses:

Value	Indicates
0	**Process the request.** The data stream and/or its length may have been changed and the write control indicator and write control character updated by the user exit.
1	**Do not process the request.** MANTIS does not issue the write request.

When using the Terminal Write exit, remember that an invalid response, an invalid write control indicator, an invalid write control character, or an invalid TIOA size returned by the exit results in an EXE fault.

Sample terminal write exit

A terminal write exit is provided with MANTIS on the installation tape or as part of the installation process. This exit writes the data stream to CICS temporary storage for debugging. The exit does not write to temporary storage if running in Batch MANTIS.

CSOXTERM is provided:

♦ In the OS/390 source library

♦ In the VSE/ESA MANTIS sublibrary, as member CSOXTERM.A

Facilities Screen and Prompter Design pre/post processing exits

The Facilities Screen and Prompter Design pre/post processing exits let you switch between uppercase and lowercase when designing screens and prompters. The same exits are used for both facilities. You can modify these exits, but any modifications will not affect the metadata of the screen or prompter currently being designed. To install the Screen Design and Prompter Design pre/post processing exits, do the following:

1. From the REINSTAL transfer bin on the reinstallation CSOT file provided by Cincom, transfer in the following programs:

   ```
   UTIL_PRE_PAINT_SAMPLE_1
   UTIL_PRE_PAINT_SAMPLE_2
   UTIL_POST_PAINT_SAMPLE_1
   UTIL_POST_PAINT_SAMPLE_2
   ```

2. Select the correct samples for your CICS version: _SAMPLE_1 is for CICS versions below 3.3 and _SAMPLE_2 is for versions of CICS 3.3 and above.

3. From the MASTER user, rename the sample programs as follows:

Change:	To:
UTIL_PRE_PAINT_SAMPLE_1	UTIL_PRE_PAINT_EXIT
UTIL_PRE_PAINT_SAMPLE_2	UTIL_PRE_PAINT_EXIT
UTIL_POST_PAINT_SAMPLE_1	UTIL_POST_PAINT_EXIT
UTIL_POST_PAINT_SAMPLE_2	UTIL_POST_PAINT_EXIT

Facilities transfer pre/post security exits

The MASTER user can invoke two security exits out of the TRANSFER_ONE_LVL (traditionally used for batch). The exits could then validate that the user is authorized to transfer a particular entity, in order to prevent unauthorized updates to a production system. Also if the first exit allows the operation to occur, the second exit can verify the success of the operation by examining the return code and return message.

In order to use these exits, the Master User must write two MANTIS programs. MASTER:TRANSFER_SECURITY_EXIT, and MASTER:TRANSFER_SECURITY_STAT, (both with passwords of HALOGEN). TRANSFER_ONE_LVL and the Transfer Facility both call TRANSFER_INTERFACE, the program that routes all transfer requests to the proper routines. TRANSFER_INTERFACE first checks to see if these programs exist and calls them if they do.

The MASTER:TRANSFER_SECURITY_EXIT program must receive the following parameters in the order listed:

NAME

Data Type   30-byte text

Description   The entity's name being transferred.

USERID

Data Type   16-byte text

Description   User name doing the transfer.

BIN

Data Type   16-byte text

Description   Bin name.

BINPASS

Data Type   16-byte text

Description   Bin's password.

MODE

Data Type	10-byte text
Description	What type of transfer function is being executed.
Options	OUT
	IN
	DELETE
	CREATE BIN
	DELETE BIN

TYPE

Data Type	12-byte text
Description	The type of entity being transferred.
Options	PROGRAMS
	SCREENS
	FILES
	PROMPTERS
	INTERFACES
	SCENARIOS
	TOTAL VIEWS
	EXTERNAL VIEWS
	DLIP (DL/I Call Profiles)
	DLIS (DL/I Segment Layouts)
	DLIU (DL/I Unqualified Call Profiles)
	ALL (all entities)

NEW_NAME

    Data Type   30-byte text

    Description   The entity's new name if applicable.

NEW_PW

    Data Type   16-byte text

    Description   The entity's new password, if applicable.

AR_CODE

    Data Type   1-byte text

    Description   Whether you want to add a new entity or replace an existing one.

    Options   A Add

                     R Replace

WITH_DATA

    Data Type   1-byte text

    Description   When transferring a MANTIS internal file, do you want all of the data records to be transferred with the file profile.

    Options   Y Transfer data records with the file profile.

                     N Transfer only the file profile.

HISTORY

> **Data Type** 1-byte text
>
> **Description** When transferring a MANTIS program, do you want to transfer the program's Extended Entity Profile Record (EEPR).
>
> **Options** Y Transfer the EEPR with the program.
>
> N Do not transfer the EEPR with the program.
>
> If the transfer is allowed, the Security Exit program may simply return to TRANSFER_INTERFACE. If it is not allowed, the program could do a SHOW of an error message followed by a WAIT and then CHAIN to MASTER:TERMINATE or any other processing.
>
> The MASTER:TRANSFER_SECURITY_STAT program must receive the following parameters in the order listed:

STAT

> **Data Type** 1-byte text
>
> **Description** Holds the return message. For example, what happened while transferring.
>
> **Options** Y For success
>
> N For failure

MESSAGE

> **Data Type** 30-byte text
>
> **Description** Holds the return message (e.g., what happened while transferring).

NAME

> **Data Type** 30-byte text
>
> **Description** The entity's name being transferred.

USERID

    Data Type   16-byte text

    Description   User name doing the transfer.

BIN

    Data Type   16-byte text

    Description   Bin name

BINPASS

    Data Type   16-byte text

    Description   Bin's password.

MODE

    Data Type   10-byte text

    Description   What type of transfer function is being executed.

    Options   OUT

                   IN

                   DELETE

                   CREATE BIN

                   DELETE BIN

TYPE

Data Type	12-byte text
Description	The type of entity being transferred.
Options	PROGRAMS
	SCREENS
	FILES
	PROMPTERS
	INTERFACES
	SCENARIOS
	TOTAL VIEWS
	EXTERNAL VIEWS
	DLIP (DL/I Call Profiles)
	DLIS (DL/I Segment Layouts)
	DLIU (DL/I Unqualified Call Profiles)
	ALL (all entities)

NEW_NAME

Data Type	30-byte text
Description	The entity's new name if applicable.

NEW_PW

Data Type	16-byte text
Description	The entity's new password if applicable.

AR_CODE

Data Type	1-byte text
Description	Whether you want to add a new entity or replace an existing one.
Options	A Add
	R Replace

WITH_DATE

Data Type	1-byte text
Description	When transferring a MANTIS internal file, do you want all of the data records to be transferred with the file profile.
Options	Y Transfer data records with the file profile.
	N Transfer only the file profile.

HISTORY

Data Type	1-byte text
Description	When transferring a MANTIS program, do you want to transfer the program's Extended Entity Profile Record (EEPR).
Options	Y Transfer the EEPR with the program.
	N Do not transfer the EEPR with the program.

This program is used to check the status of success of the operation. TRANSFER_SECURITY_STAT may simply return to TRANSFER_INTERFACE. If the operation was not successful, TRANSFER_SECURITY_STAT can do whatever processing or logging is necessary.

Utility programs

MANTIS supplies several utility programs, which enable you to change a MANTIS task's environment by calling an interface program or executing a non-MANTIS program. These utility programs are described in the following sections.

Node error programs

DFHZNEP and DFHZNEP2 are user-replaceable node error programs in the CICS environment. Depending on which of these two programs you are using, DFHZNEP or DFHZNEP2 will get control when an error condition occurs at a CICS terminal node.

DFHZNEP and DFHZNEP2 are provided with MANTIS as sample programs. You can use the desired sample program in two ways:

♦ **Almost as-is.** Modify one of the sample node error programs slightly to make it function in your installation.

> **NOTE**
>
> To find out how your installation should be modified, refer to the comments in the appropriate sample node error program.

♦ **Merged.** If you are already using a node error program, you can merge the code in one of the sample node error programs with your existing code.
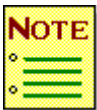
> **NOTE**
>
> For further information on the node error programs, refer to the *CICS Customization Guide* for your release of CICS or Transaction Server.

DFHZNEP

DFHZNEP is designed to be used in a MANTIS limited terminal environment, but the supplied sample DFHZNEP can be used in either a MANTIS limited terminal environment or a MANTIS unlimited terminal environment. It starts a MANTIS program, as a background task, that signs off the terminal from MANTIS and cleans up temporary storage for the MANTIS task.

DFHZNEP is provided:

♦ In the OS/390 source library

♦ In the VSE/ESA MANTIS sublibrary, as member DFHZNEP.A

DFHZNEP2

DFHZNEP2 is designed for, and can only be used in, a MANTIS unlimited terminal environment. It is provided for compatibility with prior MANTIS releases. It starts CSOXLSTM (see the next section, "Lost terminal recovery programs," on page 673) to cleanup temporary storage.

DFHZNEP2 is provided:

♦ In the OS/390 source library

♦ In the VSE/ESA MANTIS sublibrary, as member DFHZNEP2.A

Lost terminal recovery programs

CSOXLSTM

CSOXLSTM is designed to be started from DFHZNEP2 and can only be used in a MANTIS unlimited terminal environment. It deletes all MANTIS temporary storage for a terminal ID (the ID of a terminal which an error caused to be disconnected from CICS) that was passed to it.

NOTE
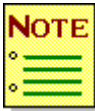
For further information, refer to the comments in the sample program.

CSOXLSTM is provided:

◆ In the OS/390 source library

◆ In the VSE/ESA MANTIS sublibrary, as member CSOXLSTM.A

CSOXDTID

CSOXDTID starts a MANTIS program, as a background task, that decrements the signed on terminal count, deletes the appropriate terminal record, and cleans up temporary storage. CSOXDTID can be used in either a MANTIS limited terminal environment or a MANTIS unlimited terminal environment.

To use CSOXTID:

1. Use a CICS monitor program or some other means to determine the ID of the terminal you would like to sign off from MANTIS.

2. Invoke the transaction that runs CSOXDTID, in the process supplying to CSOXDTID the ID of the terminal you would like to sign off from MANTIS.

NOTE
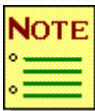
For further information, refer to the comments in the sample program.

CSOXDTID is provided:

◆ In the OS/390 source library

◆ In the VSE/ESA MANTIS sublibrary, as member CSOXDTID.A

Background task import program

CSOXIMPC starts a MANTIS program, as a background task, that imports all entities on the Universal Export Facility file into the signed on user. CSOXIMPC helps to manage the movement of MANTIS entities from an external repository into the MANTIS cluster.

NOTE
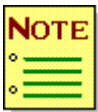
For further information, refer to the comments in the sample program.

CSOXIMPC is provided:

- ♦ In the OS/390 source library

- ♦ In the VSE/ESA MANTIS sublibrary, as member CSOXIMPC.A

Shared Pool load program

CSOXISPB starts a MANTIS program as a background task. At CICS startup, this MANTIS program loads the Shared Pool from either the Program Load Table or the sequential terminal facility.

NOTE
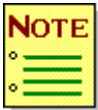
For further information, see "Shared Pool maintenance using a background task" on page 373.

CSOXISPB is provided:

- ♦ In the OS/390 source library

- ♦ In the VSE/ESA MANTIS sublibrary, as member CSOXISPB.A

CICS UCTRAN manipulation program

You can allow MANTIS to control whether it will perform uppercase translation or accept mixed-case input. The UCTRAN attribute for a terminal entry, which is manipulated by CSOXSETU, controls CICS uppercase translation.

CSOXSETU is an assembler interface program, which can be called from a MANTIS program, that controls where uppercase translation takes place.

> **NOTE**
>
> For further information on using CSOXSETU and controlling uppercase translation in MANTIS, see "UCTRAN interfaces" on page 207.

CSOXSETU is provided:

♦   In the OS/390 source library

♦   In the VSE/ESA MANTIS sublibrary, as member CSOXSETU.A

A

List of Extended Dialog Profile Records (EDPR)

List of Extended Dialog Profile Records (EDPR)

The following table shows the Extended Dialog Profile Records (EDPR) supplied on the Dialog Directory List of the user PROFILE_DEFAULTS. They are listed here for your reference. You can consult this list when you want to copy individual EDPR records to a user. EDPR names cannot be changed.

Extended dialog profile record	Function
ADOP_EDPR_COPY	COPY Dialog Profile Entry
ADOP_EDPR_DELETE	DELETE Dialog Profile Entry
ADOP_EDPR_KEYS	KEYS Dialog Profile Entry
ADOP_EDPR_LIST	Dialog Directory List
ADOP_EDPR_OPTN	OPTN Dialog Profile Entry
ADOP_EDPR_RENAME	RENAME Dialog Profile Entry
ADOP_ELOG_BROWSE	BROWSE Audit Trail Records
ADOP_ELOG_LIST	Audit Trail List
ADOP_EREF_LIST	Bill of Materials List
ADOP_ETRG_BROWSE	BROWSE Trigger Records
ADOP_ETRG_DELETE	DELETE Trigger Record Entry

Extended dialog profile record	Function
ADOP_ETRG_EXECUTE	EXECUTE Trigger Record Entry
ADOP_ETRG_LIST	Trigger File List
ADOP_ETRG_MENU	Trigger Functions Menu
ADOP_ETRG_UPDATE	UPDATE Trigger Record Entry
ADOP_PRGM_AUDIT	Audit Trail List
ADOP_PRGM_BILL	Bill of Materials List
ADOP_PRGM_BIND	BIND Program Entry
ADOP_PRGM_BROWSE	BROWSE Program Profile Records
ADOP_PRGM_CEFCHECK	CEFCHECK Program Entry
ADOP_PRGM_CHECK	CHECK Program Entry
ADOP_PRGM_COMPOSE	COMPOSE Program Entry
ADOP_PRGM_COPY	COPY Program Entry
ADOP_PRGM_CREF	CREF Program Entry
ADOP_PRGM_DECOMPOSE	DECOMPOSE Program Entry
ADOP_PRGM_EDIT	EDIT Program Entry
ADOP_PRGM_LIST	Program Directory List
ADOP_PRGM_MENU	Program Design Facility
ADOP_PRGM_PRINT	PRINT Program Entry
ADOP_PRGM_PROFILE	PROFILE Program Entry
ADOP_PRGM_PURGE	PURGE Program Entry
ADOP_PRGM_RENAME	RENAME Program Entry
ADOP_PRGM_SQLBIND	SQLBIND Program Entry
ADOP_PRGM_SQLCHECK	SQLCHECK Program Entry
ADOP_PRGM_SQLMAINT	SQLMAINT Program Entry
ADOP_PRGM_SQLUNBIND	SQLUNBIND Program Entry
ADOP_PRGM_UNBIND	UNBIND Program Entry
ADOX_EDPR_KEYS	Update Dialog Profile PF Keys
ADOX_EDPR_OPTN	Update Dialog Profile Options

Extended dialog profile record	Function
ADOX_EEPR_UPDATE	Update Program Profile
ADOX_ETRG_DELETE	DELETE Trigger Record
ADOX_ETRG_UPDATE	UPDATE Trigger Record
FSE_EDIT	Full Screen Editor Profile
SHRP_DELETE_MEMBER	Delete Member Entry Screen
SHRP_DISABLE_MEMBER	Disable Member Entry Screen
SHRP_EDIT_LIST	Edit Shared Pool Member List
SHRP_EDIT_MEMBER	Edit Shared Pool Member Entry
SHRP_ENABLE_MEMBER	Enable Member Entry Screen
SHRP_ENTITY_LIST	Shared Pool Entity List
SHRP_INSERT_MEMBER	Insert Member Entry Screen
SHRP_LOAD_LIST	Load Shared Pool Entry Screen
SHRP_NAME_LIST	Shared Pool Entity Name List
SHRP_NEWCOPY_MEMBER	Newcopy Member Entry Screen
SHRP_NOMINATE_ITEM	Nominate Shared Pool Entry Screen
SHRP_NOMINATE_LIST	Shared Pool Nominate List
SHRP_PROFILE	Shared Pool Profile Screen
SHRP_PURGE_LIST	Purge Shared Pool Entry Screen

B

Line Editor functions

Use the Full-Screen Editor to create and modify a program in the Component Engineering Facility (CEF). The Line Editor functions SAVE, REPLACE, and PURGE can destroy program integrity because the Line Editor does not update the Extended Dialog Profile Records (EDPR).

The following table shows the conditions that occur when issuing these Line Editor functions with CEF:

Line editor function	MANTIS directory?	CEF EEPR?	CEF program directory list visible?	Your action
SAVE	Saved	Not created	No	Create the profile record to place program on the CEF Program Directory List. (User design)
REPLACE	Replaced	Not updated	Yes	Changes are replaced, but profile dates are not updated when the REPLACE is issued. (No corrections possible)
PURGE	Purged	Not purged	Yes-(but empty)	If user wants program, restore it from backup of latest MANTIS cluster, otherwise purge this extraneous profile record. (User design)

C

DL/I system administration considerations

This appendix discusses DL/I installation and considerations for the system administrator.

MANTIS Master User files

Segment definition and Call Profiles are defined in MASTER under these files:

DLI_SEGMENT_37   DL/I Segment Description and Layout

DLI_PROFILE_37   DL/I Call Profile Description and Layout

DLI_PROF37_UNQUA   DL/I   Unqualified Call Profile Description and Layout.

All Segment Layouts and Call Profiles are stored in the three preceding files. You can use the Transfer Facility to move all Segment Layouts and Call Profiles.

Create user CSIDLI (new DL/I users only)

If you are a new DL/I customer, sign onto MASTER and create the user CSIDLI, with the password SOFIA.

CSIDLI is a special user specifically used for support of DL/I access. As mentioned previously, Segment Layouts and Call Profiles are stored in the three files in MASTER, however, to create and update Segment Layouts, you must be signed-on to the special user CSIDLI.

All users can create and update Call Profiles, directly accessing the files on the MASTER User Library. As the Master User, you have the option of giving the name and password to the special user CSIDLI to allow your users to sign-on to directly create and update Segment Layouts.

System considerations

The following are system considerations when accessing DL/I using MANTIS.

Teleprocessing monitor

The MANTIS-DL/I Access is only supported under the CICS teleprocessing monitor.

MANTIS release compatibility

Release 5.2 of the MANTIS-DL/I Access Facility is still compatible with MANTIS release 3.7 and upwards if you don't convert Segment Layouts and continue using the Old Interface Facility. MANTIS-DL/I Access Facility does not run on MANTIS release 3.5 or previous versions.

DL/I PSBs definition

The PSBs in the CICS-DL/I system accessible to MANTIS-DL/I Access can be defined as Assembler (ASM) or COBOL.

CICS task execution mode

You can execute CICS tasks that use the MANTIS-DL/I Access in both conversational and pseudoconversational modes.

ACT entry (VSE only)

You must enter each PSB you want to access in an ACT Table Entry for MANTIS.

For example:

```
DLZACT PGMNAME=MANTIS,
       PSBNAME=(PSB0001,PSB0002,...),
       TYPE=PROGRAM
```

D

MANTIS SQL support system administration considerations

MANTIS SQL Support is an extended version of MANTIS. It is used to create MANTIS applications that access DB2, DB2 for VSE and VM (formerly SQL/DS), or SUPRA database systems using SQL.

This chapter refers to:

♦ Static and extended dynamic execution modes.

♦ SQL Support Modules.

For additional information concerning these subjects, refer to *MANTIS SUPRA SQL Programming, OS/390, VSE/ESA*, P39-3105, or *MANTIS DB2 Programming, OS/390, VSE/ESA*, P39-5028.

Installation considerations

| NOTE | Cincom provides this section's installation information so that you have a reference. However, when you install or upgrade MANTIS, the MANTIS Installation Wizard (MAIWI) performs the functions described here. |

| NOTE | You can run MAIWI after the installation or upgrade is complete, in case you would like to add DB2 support later. |

Consider the following when installing and maintaining MANTIS SQL Support.

Precompiling CSOPSQL1 and CSOPSQL2

When MANTIS SQL Support is installed for use with either DB2 or DB2 for VSE and VM (formerly SQL/DS), an SQL precompile and assembly is required. (Precompiling and assembly are NOT required if the database to be used is SUPRA.) The CSOPSQL1 (DB2 for VSE and VM) or CSOPSQL2 (DB2) module must be precompiled, assembled, and link-edited in the composite MANTIS link-edit. CSOPSQL1 and CSOPSQL2 are supplied as BAL source modules on the MANTIS installation tape.
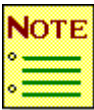
| NOTE | The CSOPSQL1 and CSOPSQL2 modules distributed on the MANTIS installation tape permit only 10 SQL statements to be concurrently executed in a MANTIS program. This statement limit can be changed by generating a new CSOPSQL1 or CSOPSQL2 module (see "Generating a new CSOPSQL1 or CSOPSQL2 module" on page 697). |

| NOTE | A precompile and assembly is NOT necessary if the SQL database to be used is SUPRA. SUPRA/SQL cannot coexist with DB2 or DB2 for VSE and VM (formerly SQL/DS). |
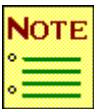
DB2 considerations

NOTE

The MANTIS Install Wizard installs the DB2 interface and prepares it for execution. However, if you must change the DB2 interface, consider the information in this section when maintaining MANTIS SQL Support for DB2.

Preparing the DB2 interface for CICS
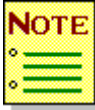
NOTE

For users of the CICS 4.1 environment: The CICSTBLS installation data set contains a sample Resource Control Table (RCT) definition for DB2. This sample RCT definition for DB2 is located in the MEI2RCT member. Please review the notes in this member that apply to your installation. Specify the MANTIS transaction code(s) on the TXID parameter, regardless of whether or not paired transaction IDs are used. All MANTIS transids should be specified in the RCT.

An SQL precompile and assembly is required during MANTIS installation. The SQL precompile and assembly creates the DB2 Application Plan, which MANTIS uses in dynamic execution mode. For further information on dynamic execution mode, see "Creating a new CSOPSQL2 module" on page 690.

The source code that must be precompiled for DB2 is located in the installation SOURCE library. For DB2, the source member is CSOPSQL2, a Basic Assembler Language (BAL) program that must be input to the DB2 precompiler program and assembled. The object code from this assembly must be available when you run the composite link-edit for MANTIS.

The Cincom-supplied source member CSOPSQL2 has been generated with STDSQL=NO. Therefore, if you use this source member, you must precompile it by using STDSQL(NO). You must also precompile, with STDSQL(NO), subsequent support modules generated by using the SQLBIND/SQLGENER process.

For CSOPSQL2 and future generated support modules to conform to the 1986 ANSI SQL standard, you must generate CSOPSQL2 with STDSQL=86 and precompile it with STDSQL(86). You must also precompile subsequent generated SQL support modules by specifying STDSQL(86). For more information on creating a CSOPSQL2 module, see "Creating a new CSOPSQL2 module" on page 690.

The CSOPSQL2 member distributed on the installation tape imposes a maximum number of ten SQL statements that can be active at one time in a MANTIS program. Before precompiling CSOPSQL2, review "Creating a new CSOPSQL2 module" on page 690 to determine whether this maximum is acceptable for your site. If it is not, you can create a new CSOPSQL2 module with a higher maximum number of SQL statements.

Creating a new CSOPSQL2 module

MANTIS SQL Support for DB2 executes programs in one of the following modes:

♦ **Dynamic execution mode.** All SQL statement processing is performed as each EXEC_SQL statement is encountered. No precompiling occurs prior to execution.

♦ **Static execution mode.** Similar to SQL in COBOL. SQL statements are extracted from the MANTIS program into a Basic Assembler Language (BAL) source code module. This module is then precompiled and assembled as is a COBOL program. Instead of using dynamic SQL statements, the MANTIS program executes SQL statements from the precompiled BAL module.

NOTE
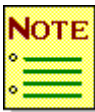
Do not confuse static and dynamic SQL statements with static and dynamic execution modes. Both static and dynamic statements can execute in static or dynamic modes.

When executing in dynamic execution mode, MANTIS SQL programs are limited in the number of SQL statements that can be active concurrently.
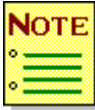
NOTE	MANTIS SQL programs executing in dynamic execution mode are not limited in the number of SQL statements the program can contain—only in the number that are active at once.

This maximum applies to each MANTIS program and to all do-levels of the program. In general, each SQL statement in a MANTIS program counts as one against this maximum. However, MANTIS counts all SQL statements that use the same cursor name as a single SQL statement toward this maximum. For example, when a program contains DECLARE, OPEN, FETCH, and CLOSE statements for the same cursor name, this counts as one against the SQL statement maximum, not four.

The maximum number of SQL statements that can be active concurrently is specified when the CSOPSQL2 module is created. The CSOPSQL2 module that is distributed on the installation tape was created specifying a maximum of ten concurrently active SQL statements.

To create a new CSOPSQL2 module, modify and assemble the CSOPSQLI member in the installation SOURCE library. CSOPSQLI executes the C$OPSQLI macro in the installation MACLIB. You must specify the following two parameters: DBTYPE (DB2) and MAX (0 to 512). The output of this assembly is a CSOPSQL2 source module (no object is created) that supports the number of concurrently active SQL statements specified by the MAX parameter. You should then precompile this CSOPSQL2 module and assemble it instead of the CSOPSQL2 module that is distributed on the installation tape.

Considerations. Consider the following:

♦ C$OPSQLI uses PUNCH statements to output the CSOPSQL2 source code. To use this macro, you must have the MVS SYSLIN DD statement defined in your assembly JCL. (Refer to member MVJASML on the installation JCLLIB.)

♦ You can use the CSOPSQL2 module distributed on the installation tape and, if needed, create a new CSOPSQL2 module at any time after MANTIS is installed.

Creating the DB2 Application plan for MANTIS SQL support

This section describes the steps necessary to create the DB2 Application Plan used by MANTIS SQL Support.

The SQL statements executed by MANTIS SQL Support in dynamic execution mode are contained in module CSOPSQL2. This module must be precompiled using the DB2 precompiler program for BAL programs. The output from this precompile must be assembled and the object code from this assembly must be available when the composite MANTIS link-edit is run.

Sample JCL to precompile, assemble, and link-edit CSOPSQL2 is included on the installation tape. The JCL consists of one MVS JCL procedure (proc) and the JCL to execute this proc. The proc is member MVP2PAL in the installation PROCLIB and the JCL to execute it is MVJ2PAL in the installation JCLLIB.

You must modify MVP2PAL before using it on your system. Several MVS libraries are specified by MVP2PAL and you need to modify these library names to reflect the specific libraries you use on your system. Also, you may need to allocate some libraries before you execute MVP2PAL. (You can allocate these when you download the MANTIS installation tape on your system; if you do not allocate them at that time, you must allocate them manually before using MVP2PAL.) All MVS libraries used by MVP2PAL are documented in the MVP2PAL proc. (Refer to the MVP2PAL proc for the specific libraries required and their contents.)

After you modify MVP2PAL, you must then modify and execute MVJ2PAL, specifying MEM=CSOPSQL2. This will precompile, assemble, and link-edit the CSOPSQL2 object. All job steps should complete with a return code of 0.

Considerations. Consider the following:

♦ MVJ2PAL and MVP2PAL are used during MANTIS installation, but their primary function is creating the SQL Support Load Modules for MANTIS programs that will execute in static execution mode. (For more information on static execution mode, see "Creating a new CSOPSQL2 module" on page 690.) Keep this in mind when choosing the MVS libraries and allocating space for any libraries created for MVP2PAL.

♦ MVJ2PAL contains a PROCLIB DD statement that specifies the location of MVP2PAL. This statement is not accepted on all MVS systems. If the PROCLIB statement is not available on your system, you can catalogue MVP2PAL to a system procedure library or include it as an in-stream proc in the execution JCL. In this case, remember to delete the PROCLIB statement from MVJ2PAL.

♦ MVP2PAL link-edits the CSOPSQL2 object with one of three DB2 attach facility interface programs: DSNCLI (CICS), DSNELI (TSO batch), or ASMTDLI (IMS). Because MVP2PAL does this link-edit, no INCLUDE for these modules is present or required in the composite MANTIS linkdeck.

♦ When CSOPSQL2 is link-edited (see above), AMODE and RMODE are specified as AMODE(31), RMODE(ANY). If this is not acceptable on your system, you must change members MELICLI (CICS), MVLIELI (TSO batch), and MILIDLI (IMS) in the installation MACLIB.

♦ When CICS is the TP monitor, MVP2PAL link-edits the CSOPSQL2 object into two separate libraries: one for CICS online (CSOPSQL2 link-edited with DSNCLI) and one for batch (CSOPSQL2 link-edited with DSNELI). The member name (CSOPSQL2) is the same in both libraries. Be sure to specify the correct library when you perform the composite MANTIS link-edits. The wrong CSOPSQL2 module can be link-edited successfully with MANTIS (the batch CSOPSQL2 link-edit with the online MANTIS or the reverse), but errors will occur when SQL statements are executed by MANTIS programs.

♦ If you receive an IEW0461 message (unresolved reference) on DFHEAI0 for the CICS version of CSOPSQL2, you can disregard it because it will be resolved in the composite link of MANTIS. Static SQL Support Modules must have DFHEAI0 resolved, either by prior linking with DSNCLI, or by modifying the MELICLI linkdeck in the installation MACLIB to include it with each link.

Binding the DB2 Database Request Module (DBRM). The DB2 Database Request Module (DBRM) for CSOPSQL2 is created during the precompile of CSOPSQL2.
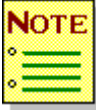
> **NOTE**
>
> Do not confuse this section with the MANTIS HPO BIND command or the MANTIS SQL BIND process.

This DBRM must be bound (individually or with other DBRMs) to create the DB2 Application Plan used by MANTIS for dynamic execution mode. DBRMs are bound into DB2 Application Plans using the DB2 BIND command. (Do not confuse this with the MANTIS HPO BIND command.) You can perform the DB2 BIND using IBM-supplied utilities (DB2I or SPUFI), or in batch. Sample JCL to perform the DB2 BIND for CSOPSQL2 is contained in MVJ2BIND in the installation JCLLIB. If you use MVJ2BIND, you must modify it to indicate the specific libraries in use on your system.

Consideration. As part of the DB2 BIND, the Application Plan is assigned a name.   If CICS is the TP monitor in use, this same name must be specified in the CICS Resource Control Table (RCT) entry for the MANTIS TRANSID(s). (For more information on specifying the RCT table entry for MANTIS, see "RCT (Resource Control Table)" on page 696.)

Granting authority to the MANTIS DB2 Application Plan. After creating the DB2 Application Plan for MANTIS, you must grant it execution authority in order to use it. Do this using the DB2 GRANT command with the same facilities as the DB2 BIND (DB2I, SPUFI, or MVJ2BIND). For more information, see "Binding the DB2 Database Request Module (DBRM)" above. Authority is normally granted to PUBLIC but can be granted for any user.

Displaying DB2 error message text

MANTIS SQL Support can display the error message text for errors detected by DB2.   A MANTIS fault code (NUCQDBE) is reserved for this purpose. To display DB2 error message text, the DB2 module DSNTIAR must be link-edited with MANTIS. DSNTIAR is not linked with MANTIS, a default message displays showing the DB2 SQLCODE value. The error message text must then be located in the *DB2 Messages and Codes* manual.

DB2 for VSE and VM (formerly SQL/DS) considerations

Consider the following when installing and maintaining MANTIS SQL Support for DB2 for VSE and VM.

Granting DB2 for VSE and VM authority for MANTIS

The SQL/DS Access Module used by MANTIS is created when CSOPSQL1 is precompiled. After the access module is created, MANTIS must be granted authority to use the access module. This can be done using the DB2 for VSE and VM ISQL utility. Sample JCL is supplied on the MANTIS install tape. Execute authority should be granted to all users that access DB2 for VSE and VM from MANTIS, or to PUBLIC.

MANTIS also needs SELECT authority to the DB2 for VSE and VM SYSTEM.SYSACCESS catalog table. SYSTEM.SYSACCESS is used when MANTIS SQL programs are SQL bound to execute in extended dynamic execution mode.

Displaying DB2 for VSE and VM error message text

MANTIS SQL Support can display the error message text for errors detected by DB2 for VSE and VM. A MANTIS fault code (NUCQDBE) is reserved for this purpose. To display DB2 for VSE and VM error message text, MANTIS must be able to access two DB2 for VSE and VM catalog tables: SQLDBA.SYSTEXT1 and SQLDBA.SYSTEXT2. SELECT authority to these tables should be granted to MANTIS. If MANTIS does not have access to these tables, a default message displays when DB2 for VSE and VM errors are encountered. To retrieve the error message text, locate the DB2 for VSE and VM SQLCODE value in IBM's DB2 for VSE and VM messages and codes documentation.

Teleprocessing (TP) monitor considerations (OS/390)

The following information concerns MANTIS SQL Support under various TP Monitors.

CICS considerations

Several CICS tables may require modification, both at installation and when SQL support modules are created for MANTIS programs executing in static mode.

In some versions of CICS, the following CICS tables may not be supported. In this case, the Resource Definition Online (RDO) equivalent of these tables should be modified.

RCT (Resource Control Table)

An entry in the CICS RCT table is required for all MANTIS transactions which access DB2. The DB2 application plan to be used for each MANTIS transaction must be specified. The DB2 application plan can also include packages. A sample RCT entry and RDO definition is included on the MANTIS installation tape.

PCT (Program Control Table)

An entry in the PCT is required for each CICS transaction which accesses MANTIS. DTB=YES should be coded for each program. If RDO is used, the RDO INDOUBT=BACKOUT parameter should be specified.

PPT (Program Processing Table)

An entry is required in the PPT for MANTIS and all SQL Support Modules which are temporarily or permanently loaded.

Customization Macro parameters

See "Customization Macro" on page 252 for information about the MANTIS Customization Macro and the parameters specifically affecting SQL access and performance.

Generating a new CSOPSQL1 or CSOPSQL2 module

CSOPSQL1 and CSOPSQL2 source modules are distributed with the MANTIS installation tape. These modules allow a fixed number of SQL statements to be active concurrently (10 statements is the default). If this number is not sufficient, a new CSOPSQL1 or CSOPSQL2 source module can be generated specifying 1–510 statements for DB2 for VSE and VM (formerly SQL/DS) or 0–512 statements for DB2.

To generate a new CSOPSQL1 or CSOPSQL2 module, modify the CSOPSQLI source member from the MANTIS installation tape. Make changes to the following parameters as required:

DBTYPE=

Description Specifies which SQL database is used.

Options SQLDS or DB2

Considerations

♦ When SQLDS is specified, a new CSOPSQL1 module is generated.

♦ When DB2 is specified, a new CSOPSQL2 module is generated.

DBVERS=

Description	Enables SQL statements that are only available in certain releases of DB2 or DB2 for VSE and VM (formerly SQL/DS). Leaving this option blank disables these statements in CSOPSQL1 or CSOPSQL2.
Default	23 for DB2
	34 for DB2 for VSE and VM
Options	Blank, 23, 31, 41, or 51 for DB2
	Blank or 34 for DB2 for VSE and VM

Considerations

♦ For DB2 releases prior to 2.3, use the default value. For DB2 release 2.3, use 23. For DB2 release 3.1, use 31. For DB2 release 4.1, use 41. For DB2 release 5.1 and above, use 51.

♦ For SQL/DS releases prior to 3.4, use the default value. For SQL/DS release 3.4 and higher (SQL/DS is now known as DB2 for VSE and VM), specify 34.

♦ To determine which SQL statements are available, refer to the appropriate DB2 documentation.

MAX=

Description	Sets the maximum number of SQL statements which can be active in a MANTIS program executing in dynamic execution mode and all of its associated DOLEVELs.
Default	10
Options	1–510 (for DB2 for VSE and VM—formerly SQL/DS)
	0–512 for DB2

STDSQL=

Description   Identifies whether the SQL statements in a program conform to the rules of a subset of the ISO and ANSI 1989 SQL standard (that is equivalent to the 1986 standard) or whether the SQL statements conform to DB2 or DB2 for VSE and VM rules. This parameter generates the CSOPSQL1 or CSOPSQL2 module so that the STDSQL(YES) precompiler option can be used when CSOPSQL1 or CSOPSQL2 is precompiled.

Default   No

Options   No   SQL statements conform to DB2 or DB2 for VSE and VM rules.

YES or 86   SQL statements conform to the ISO and ANSI standard.

Considerations

◆   This parameter must match the DB2 or DB2 for VSE and VM precompiler option for SQL statement conformance. Refer to the appropriate DB2 documentation.

◆   Specifying STDSQL=YES is valid only when DBVERS=23, 31, 41, 51, and above (for DB2) or DBVERS=34 (for DB2 for VSE and VM). The STDSQL(YES) precompiler option requires certain changes to be made in the source code that is to be precompiled (the SQLCA SQLCODE cannot be defined by the program, for example). STDSQL=YES causes these changes to be made to the generated CSOPSQL1 or CSOPSQL2 source code.

   If STDSQL=YES is specified, be certain that STDSQL(YES) is also specified when CSOPSQL1 or CSOPSQL2 is precompiled. If not, errors may occur when CSOPSQL1 or CSOPSQL2 is assembled.

◆   If STDQL=YES is specified for CSOPSQL2, all static SQL support modules will be generated to conform to the ISO/ANSI standard, and STDSQL(YES) should be specified when the support module is precompiled.

◆   STDSQL=86 is accepted for compatibility with earlier versions of MANTIS SQL Support. STDSQL=86 is equivalent to STDSQL=YES.

General consideration

CSOPSQLI must then be assembled. The output of this assembly is a new CSOPSQL1 or CSOPSQL2 source module (no object is created). This source module must then be precompiled, assembled, and link-edited with MANTIS.

Limiting MANTIS SQL programs to static or extended dynamic execution mode

MANTIS SQL programs are usually developed using dynamic execution mode. When ready for production use, they are SQL bound to execute in either static (DB2) or extended dynamic mode (DB2 for VSE and VM). If all MANTIS programs execute in static or extended dynamic mode (such as a production system on which no development is done), the size of the CSOPSQL1 or CSOPSQL2 module can be minimized because these modules are used mainly by dynamic execution mode during program development.

To minimize the size of the CSOPSQL1 or CSOPSQL2 module, you must regenerate it. To regenerate a new CSOPSQL1 or CSOPSQL2 module, perform the following:

1. Do one of these two steps (whichever is appropriate to your system):

    ♦   **In DB2 for VSE and VM.** Specify MAX=1.

    ♦   **In DB2.** Specify MAX=0.

2. Assemble the CSOPSQLI module and use the output as source in the following steps.

3. Precompile the CSOPSQL1 or CSOPSQL2 module.

4. Assemble the CSOPSQL1 or CSOPSQL2 module.

5. Link-edit the CSOPSQL1 or CSOPSQL2 module with MANTIS.
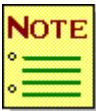
NOTE	For further information on generating a new CSOPSQL1 or CSOPSQL2 module, see "Generating a new CSOPSQL1 or CSOPSQL2 module" on page 697.

MANTIS SQL Support Module considerations (OS/390)

MANTIS SQL Support Modules, used when MANTIS programs execute in static execution mode, can be link-edited with MANTIS or dynamically loaded when needed.

If SQL Support Modules are regenerated while a previous version is in use, any SQL Support Modules which have been link-edited with MANTIS must be relinked before they can be used. When the relink is done, the newly linked version of MANTIS must be executed (CICS NEWCOPY). If the SQL Support Modules are loaded, a new copy of the SQL Support Module must be requested (CICS NEWCOPY of SQL Support Module). If the SQL Support Module was loaded permanently, the existing SQL Support Module must be released (CICS RELEASE), a new copy of the SQL Support Module requested (CICS NEWCOPY of SQL Support Module), and a new copy of MANTIS requested (CICS NEWCOPY of MANTIS).

For more information on SQL, refer to *MANTIS SUPRA SQL Programming, OS/390, VSE/ESA*, P39-3105 or *MANTIS DB2 Programming, OS/390, VSE/ESA*, P39-5028.

DB2 application plan considerations

A DB2 DBRM is created for CSOPSQL2 when it is precompiled during MANTIS SQL Support installation. This DBRM must be bound into a DB2 application plan before MANTIS SQL Support operates successfully. When MANTIS SQL programs are SQL bound to execute in static execution mode, each program which is SQL bound produces a DBRM which must be bound into a DB2 application plan or application package.

MANTIS SQL Support Module DBRMs (including CSOPSQL2) can be bound into a single DB2 application plan (all DBRMs for all MANTIS programs are included in a single DB2 application plan), bound into individual application plans (one application plan for each MANTIS program), or a combination of both (MANTIS SQL Support DBRMs are grouped into several DB2 application plans, but not one application plan for every MANTIS program).

MANTIS SQL Support also allows Dynamic Plan Allocation (DPA) to be used. (DPA allows the DB2 application plan to be specified by a CICS EXIT program instead of being specified in the RCT.) When each SQL statement is executed, MANTIS SQL Support places the SQL Support Module name used by the MANTIS program in the CICS Transaction Work Area (TWA). The TWA is contained in the CICS Task Communication Area (TCA). When the first SQL statement is executed, the EXIT program is invoked by CICS. This program can then select the DB2 application plan to be used based upon the SQL Support Module name in the CICS TWA. For programs executing in dynamic execution mode, the SQL Support Module name placed in the CICS TWA is CSOPSQL2.

Glossary of terms

| (vertical bar)

Default blank fill character used in Screen Design. Because MANTIS interprets a blank space as a new field, the blank fill character is used to connect words or letters in heading fields. Using the blank fill character optimizes transmission and screen storage.

* (asterisk)

Entered on parameter entry screens and on the command line as a wildcard character to represent an indefinite number of characters in a generic pattern of program names (e.g., CUST*). In addition, the asterisk is also supplied by the Compose action in the COMPONENT statements and CEND statements for composed programs, for example, |*COMPONENT and |*CEND.

/ (selection character)

Entered in the Action field of a list screen as a selection indicator to choose one or more programs from the list screen for which an action is issued. The selection character (/) is also entered in the Select field of the Prompt to choose a valid action.

= (equal sign)

Entered in the Action field of a list screen (below an Action field where a command was entered) as a shortcut to repeat the same command on other list items.

? (question mark)

Entered on parameter entry screens in the From Name field as a wildcard character to represent a single character in a generic pattern of program names (e.g., CUS?).

@ (at sign)

The at sign is the default character that you append to a source program name to differentiate it from a composed program name or a component name. When the at sign is appended to a source program name, the Compose action assembles and replaces a composed program with the same name as the source name without the at sign. For example, if your source program is CUST_BROWSE@ and you issue the Compose action on the source program, the resulting composed program name is CUST_BROWSE. Note that your Master User may alter the at sign to a different default character for your environment. In addition, the at sign is also coded in the SOURCE statement of an executable program (|@SOURCE) to nominate MANTIS source code changes. Coding a COMPONENT statement with the at sign (|@COMPONENT) nominates that component for the Decompose action.

access key

The actual VSAM key used when accessing an external VSAM file or SETPRAY.

action

The specific task performed on designated programs, such as Compose, Decompose, CEF Check, CREF, Edit, Purge, and others. You may issue an action by typing a command, selecting from the Program Design Facility menu, choosing from the action bar, or pressing a PF key. The ACTION command displays the action bar across the top of a list screen.

action area

The area at the top of a screen that provides the action bar on a list screen. If the action bar is not displayed, the Action Area contains a display-only screen ID (upper left corner); a screen title (middle); and current date and time stamp (upper right corner).

action bar

The action bar displays across the top of a list screen to provide the actions that are available for that screen. When you select an action from the action bar, the options related to the selected action display as an extension. This extension is a window shown over the screen called the action bar pull-down.

action bar pull-down

The window displayed as an extension of the action bar. The action bar pull-down results when you select an action item from the action bar. The action bar pull-down shows the options associated with the selected action item.

action field

The field of nine underscores (_____) on a list screen where commands can be entered for a specific program displayed on the list screen.

action items

The items displayed on the action bar. When you select an item, an action bar pull-down is then displayed showing the options associated with the item.

addendum

An Entry Option on parameter entry screens for choosing selective processing on designated programs. Addendum processing issues an action only on programs that changed since the last time that same action was issued on them.

alternate context

A separate program context area that permits one MANTIS program to list, modify, and execute another. This context area is created and maintained by the Full-Screen Editor and MANTIS Print Facility.

area layout

Defines the elements within an interface profile, for example, element name, type, format, and so on. An existing area layout can be associated to other interface designs.

attribute

Specific characteristic(s) assigned to the fields in a screen during a screen design session. For example; field name, field length, vertical and horizontal repeats, color, highlight, protected, unprotected. Most field attributes can also be set in programming mode using the ATTRIBUTE statement.

audit

An action that displays the Audit Trail List.

audit attribute information

Information on the UPDATE Program Profile screen and BROWSE Program Profile Records screen that includes selection flags (for addendum processing), date and time of actions, program version, user ID, and terminal ID.

audit trail list

An online list screen that displays the activities performed on a program or component, with the latest program activity shown at the top of the screen.

background task

A CICS MANTIS task running which is not attached to a terminal device.

BIG

A data type occupying a double-precision floating point variable.

bind

An action that creates an HPO-bound version of a MANTIS program.

bind options

The MANTIS Check, Bind, and Unbind facilities (for HPO and SQL programs) that are available from the Program Design Facility menu.

browse

(1) A method of processing a VSAM data set sequentially by maintaining a current position (string). (2) An action that displays the BROWSE Program Profile screen to let you scroll through profile information for each program in your directory.

BWA

Binding Work Area. A context block used to record information about bound programs, which is later stored with a bound program for prerun fixup and consistency checking.

cancel

A common dialog action that allows you to exit from a session with the Program Design Facility, one screen at a time, or to exit from the action bar pull-down to the action bar.

CEF

See Component Engineering Facility.

CEF check

An action that identifies the program components and source code that changed since the last Compose was issued on a source program.

CHAIN

A generic data structure which has a beginning and an end, is normally searched sequentially, and elements can be inserted or deleted at any point. An example is a program chain.

change control

The date and time stamps that CEF tracks to ensure program and component integrity. Date and time appear in several locations in CEF to support the Program Design Facility actions and to provide accurate reporting about program changes.

check

An action that checks an HPO-bound program to determine if any programs or components changed since the last time the program was bound.

cluster

A VSAM data set, specifically the VSAM data set used to hold MANTIS entities and MANTIS (internal) files.

command

(1) An action that you enter on the command line of a screen or in the Action field of a list screen to interact with CEF. A command can be made up of an action (COMPOSE, DECOMPOSE, and others) and an operand (program name). Examples are COMPOSE CUST_UPDATE@ and EDIT CUST_BROWSE. Certain commands allow you specify library, password, and description. For the syntax of individual commands, see "MASTER User's extended functionality" on page 45. In addition, the COMMAND command is a common dialog action that toggles the command line from the top of your screen to the bottom (or from the bottom to the top). (2) An action that you enter on the command line of a Screen Design screen. A command can be made up of an action (COPY, INSERT, MOVE, etc.) and an operand (e.g., the line number(s) to copy).

command help

An information screen that explains a specific CEF command.

command line

The area on a CEF screen (identified by the symbol ===>) where you can enter CEF commands (like COMPOSE, DECOMPOSE, COPY) or common dialog actions (like EXHELP, EXIT, HELP). In Screen Design you can enter commands such as COPY, DELETE, INSERT, and so on.

COMMIT points

Point at the end of a Logical Unit of Work (LUW) (sometimes called a synchronization point) where MANTIS automatically generates a COMMIT if it encounters any uncommitted updates. COMMIT points can also be specified by the user.

complex variable

A variable that contains/defines other variables, for example, FILE, ACCESS, TOTAL, VIEW, INTERFACE, or SCREEN variables.

component

A MANTIS subroutine that is common to more than one program. Components can be used and reused as necessary as building blocks of code throughout an application. Components can be framed by ENTRY and EXIT statements (although this is not required) and they are stored in a library like other MANTIS programs. Components are identified in source programs by the COMPONENT statement. When the Compose action is issued on the source program, the COMPONENT statement is expanded into component code in the resulting composed program.

component engineering

A software design methodology that lets you create reusable components as building blocks in your application design.

Component Engineering Facility (CEF)

The MANTIS facility that allows you to include reusable components as the building blocks in a structured and modular design. In CEF, source programs and their components are assembled into composed programs that can be edited and executed. In addition, executable programs can be decomposed into source code and component code. CEF uses the actions of CEF Check, Compose, Decompose, CREF (Cross Reference), and the Bill of Materials List.

composed program

A MANTIS program containing source code and component code that is the result of issuing the Compose action on a source program. Composed programs are executable programs that can be edited and executed. Composed programs also have a source program version of MANTIS source code and COMPONENT statements on which the Compose action was issued. See Executable Program and Source Program.

concurrent updating

Process that ensures that an application program operates on the most recent version of files and resources. Concurrent updating can be performed on DBMS, External and RDM files.

confirm

An action that lets you confirm execution from a parameter entry screen.

confirmation

(1) An Entry Option on the parameter entry screens that determines whether a confirmation message displays or bypassed for each program to be processed. (2) A field on the COMPOSE Confirmation screen that allows you to force the Compose action on the displayed source program or bypass composing it.

connector

A reserved word that is a modifier or component of a statement, for example, LEVEL, FIRST, and SET.

context

The set of all data blocks active for a MANTIS task at a given time, such as, ROLLOUT. These blocks are updateable by the task.

context block

Any piece of acquired storage used to hold data for the task. Also known as a Control Block.

CONTROL User(s)

Reserved user IDs that contain programs and files provided by Cincom. These users have maximum privileges and are protected from user access. Its use is restricted to MANTIS engineering. Also referred to as a Controlled User(s) or Internal User(s).

copy

The action that copies an entity or group of entities from your library (or another library) to a Transfer bin, or from your Transfer bin (or another bin) to your library.

CSCB

Context Storage Control Block—Context block used to direct the ROLLIN/ROLLOUT process.

CSOP

Same as MANTIS CLUSTER (SETPRAY) and its DDNAME in TIS/CM.

CSOPSHAR

A module loaded in CICS as a mechanism to obtain permanent storage for the Shared Pool when running under the 16Meg line.

CSOT

Same as TRANSFER FILE and its default DDNAME.

customization

Use of the macro C$OPCUST to tailor options or system definition of MANTIS versions.

CWA

Comment Work Area. A context block used to save comments stripped from a bound program, which is later stored with the bound program for use when the program is edited.

data area

Subset of DWA allocated for a specific variable, such as an elemental data area.

data block

An entry in the DWA that completely defines a variable or complex variable. It consists of a DATA HEADER followed by 0-n DATA ELEMENTS.

data element

A single variable within a DATA BLOCK, for example, a single SMALL/BIG/TEXT/DBCS entry.

data fields

Fields defined in Screen Design to display input and output data.

data header

The first few bytes of a DATA BLOCK that defines the data type, array information, and so on.

decompose

An action that disassembles an executable MANTIS program into individual components and then updates program libraries with source changes and component changes.

DOLEVEL

An indication of how many levels of external DOs a program is running under. The first program executed by a CHAIN has a DOLEVEL of zero. Also a built-in function indicating the same.

DOSTACK

A context block used when external DOs are activated. Information relative to the executing program (from TWA) is pushed and popped from this stack as programs are externally executed and exited.

double byte character set (DBCS)

Special 2-byte, text character used on Asian language support terminals.

DWA

Data Work Area. A context block containing the data values and definition of MANTIS variables for a program.

edit

An action that starts a session with the Full-Screen Editor (FSE) where you can view, create, and modify MANTIS programs.

Elemental Data area

The area where data is stored for a specific occurrence or array element. If the data is numeric, it is the actual number; if TEXT or DBCS, it includes the current length indicator for the occurrence.

entity (or MANTIS entity)

Generic name for complex variable descriptions (SCREEN, INTERFACE, FILE), MANTIS programs, and MANTIS internal file data.

entry field

A field on a screen where you supply information. Examples of entry fields are Action fields on list screens, From and Thru (or From and To) fields on parameter entry screens, and Entry and Function Options on parameter entry screens.

entry options

Common options on parameter entry screens that let you define how an action is processed. For example, Entry Options give you the choice of online or batch processing, confirmation messages, and addendum processing. Entry Options are set to system default values at installation that can be customized by your Master User. You may change these settings for the duration of the current action.

executable program

Any program that can be executed in MANTIS. An executable program that is the result of the Compose action, is called a composed program. See Composed Program and Source Program.

exhelp

The common dialog action for extended help. When issued, EXHELP displays a help screen that explains a specific action.

exit

A common dialog action that terminates the current function and returns a higher level function. For example, exiting from the Program Directory List takes you back to the Program Design Facility menu.

extended attribute support

Support in Screen Design for all attributes available on the latest 3270 style terminal. This includes color, blinking, underlining, range checking, reverse video, and so on.

extended entity profile record (EEPR)

An external VSAM file that stores program profile history information. The EEPR contains the following data: program information (description, password, status, date and time or last change, terminal ID, user ID, and version number); CEF information (Check, Compose and Decompose); and Bind information (Check, Bind, Unbind) for HPO and SQL bound programs. Information about CREF (Cross Reference) data is not included on the EEPR because CREF data applies only to the source cluster.

extended help

One or more information screens explaining an action. The command for displaying extended help is EXHELP.

external file view

Detailed information about the contents and format stored in an external file, such as a personal computer file. A file view allows you to control access to the information by password protecting certain portions of the file data.

facility

A program provided by Cincom or a user that is used by a programmer, for example, a menu program, screen design, file design, and so on, as opposed to user-written application programs.

FAULT

A situation where an error has occurred and is being processed.

FAULT Code

A 3-character code used to indicate the nature of the fault in some mnemonic fashion.

field attribute

Attribute such as color, highlighting, blinking, underlining, and so on, defined to a field.

field help

One or more information screens describing a specific field on a screen. Field help is available for data entry fields and for display fields.

file code

A code that is part of the MANTIS cluster VSAM key. This code identifies records belonging to an individual internal file. FILE CODES less than 17 and greater than 999 are reserved for Cincom use.

forward

An action that (1) repositions a list forward one screen, and (2) retrieves the next record on a browse screen.

FSE

Full-Screen Editor. The program editing facility used to create or modify code. With access to the full screen, you can modify multiple lines of program code before saving your changes.

Full-Screen Edit Profile

Allows you to temporarily change information that controls an editing session. You can change current PF key settings and edit mode settings (CAPS ON, NULLS, INDENT, and SCROLL). Any changes you make to these settings are not saved and are reset to the system default when you exit from the Full-Screen Editor.

Full-Screen Editor (FSE)

Provides facilities for creating and modifying MANTIS programs using the logical screen support of the Logical Terminal Interface (LTI). FSE is accessed through the Edit Option on the Program Design Facility menu.

function key

(1) The program function (PF) keys that issue a specific action. PF keys display at the bottom of screens and can be changed for the duration of the current action. Your Master User can permanently customize PF key settings for each user. Examples of PF keys are F1=HELP, F2=EXHELP, F3=EXIT, and F4=PROMPT. (2) The program function (PF) keys that issue a specific action. PF keys are available for each facility and differ from screen to screen within the facility. Your Master User can permanently customize PF key settings for each user.

function key area

The area at the bottom of your screen where function key numbers and their settings display.

function key area help

An information screen that explains how to use the Function Key Line and the PF keys.

FWA

File Work Area. The buffer in CICS used to contain data for a VSAM file or MANTIS cluster.

group heading

The four major groups on the Program Design Facility menu: Program, Component Engineering, Bind Options, and Utilities. Several options associated with each group heading appear on this menu screen. For example, the Program group heading on the menu screen consists of the options List, Edit, Profile, Purge, Copy, and Rename.

hash table

An in-core table used to record information of a global nature. Currently, it is used to record the access key for a TOTAL view that has once passed a RDESC checkout and for the access key of programs containing VIEWs which have been bound so that redundant verification is not required. (RECHECK option.)

header

The initial part of a simple or complex variable. For a simple variable, it consists of the variable's typing definition. For a complex variable, it consists of typing definition, status variable value, and current context (keys, marks, flags, etc.).

heading fields

Fields defined in Screen Design to specify screen and field names. Heading fields always appear on the completed design exactly as they were entered.

help

The common dialog action for field-specific help. When issued, HELP displays a help screen that explains a specific field (based on cursor position). HELP can also display a help screen for a command or message, or HELP can display the KEYSTEMP screen where you may alter PF keys.

HPO bind

The function that creates a new bound version of a MANTIS program.

HPO check

The function that checks an HPO-bound program to determine if any programs or components changed since the last time the program was bound.

HPO status report

The report you request to view at completion of an HPO check, bind, or unbind process to indicate the status of the process.

HPO unbind

The function that replaces the bound version of a MANTIS program with the unbound version.

immediate

An Entry Option on the parameter entry screens that lets you determine whether an action is executed immediately or written to the Trigger file and deferred for later processing.

Immediate Mode Statement

A statement entered without a line number in the Line Editor or on the command line of the Full-Screen Editor, indicating it should be interpreted and executed immediately, and not become a part of the program.

index

An area of the Variable Work Area (VWA) that maps user word numbers to DWA offsets for the corresponding variables.

INTERFACE

A complex data type that defines an area used by a non-MANTIS program when CALLed. Also used to refer to the program as the object of a CALL statement.

interface area

A context block used to pass data between MANTIS and an interface program.

internal file

Same as FILE or MANTIS FILE, that is, a file defined by a MANTIS user and residing on the MANTIS cluster.

Kanji

A generic term indicating a 16-bit text data type and specifically a Japanese language 16-bit character set.

keysupdate

A common dialog action that displays the list of PF keys settings that you can changes for the duration of the current action.

L

The L (locate) command repositions a list screen to a specific program or component.

left

An action that moves the columns of a list screen to the left to allow you to view all fields that extend beyond the width of your screen.

leveling

Use of the LEVEL option on definition or action statements for complex variables. This indicates the simple variables are subscripted by an order of the level specification on the definition statement. For example, FILE REC("MISC",PASSWORD,10) indicates a dimension of 10 for all simple variables defined in "MISC" file. GET REC LEVEL=8 indicates that a successful GET fills the eighth element of each of these arrays.

levels

In Scenario Design, screens are assigned to levels to reflect the order in which they are to appear in the application. For example, a level 1 screen would be a main menu screen. A screen at level 2 would be a menu screen selected from the main menu screen, and so on.

library functions

Functions available for saving, replacing, fetching and deleting screens, file views, interfaces, and prompters.

line commands

FSE commands that affect the line(s) where they are entered. Line commands include editing commands (move, copy, etc.) and destination commands (after, before, etc.).

line editor

The single-line program editing facility used to test the MEMORY command. Because the Line Editor does not update the Entity Profile Records, programs should be written using the Full-Screen Editor.

list

The term *list* has two meanings in the Program Design Facility. First, as an action, List is one of the Program Design options on the Program Design Facility menu that lets you display your Program Directory List. Second, a list is a type of screen where programs or records are presented in order, along with additional, extended information provided by the system for reference. The list screens are the Program Directory List, Bill of Materials List, Component Where Used List, Audit Trail List, and Trigger File List.

logical terminal

An abstract device with 255 rows and 255 columns and a superset of all terminal features. Screen I/O is directed to the logical terminal, and subsets of dimensions and features are directed to the physical terminal device depending upon its actual capabilities.

logoff

A common dialog action that lets you exit from MANTIS. If you are working in the Full-Screen Editor when you issue LOGOFF, your changes are saved.

LTI

Logical Terminal Interface. The facility which directs and controls input and output to physical and logical terminal and printer devices.

LTI Storage (a.k.a. LTI Stack)

Context blocks established and used by LTI routines to contain information about the terminal, its current display, and any active screen (map) definitions.

map

Commonly used as a synonym for screen or screen.

mapset

The collection of all screens displayed to the logical terminal at any one time. A screen is added to the mapset by a CONVERSE mapname SET or CONVERSE mapname WAIT. A mapset is cleared by CLEAR or CONVERSE without SET or WAIT

Master User

Person or persons designated to perform administrative functions for an installation site. The Master User can set up user profiles, specify which users can use which facility programs, alter sign-on and termination, set printing specifications, establish system security, edit text of MANTIS and DBCS messages, maintain files and codes, display program statistics, check bound programs, transfer entities, capture data from a background task, share frequently used programs among users, and run reports.

menu

A common dialog action that lets you return to the MANTIS Facility Selection menu. If you are working in the Full-Screen Editor when you issue MENU, your changes are saved.

message help

One or more information screens describing a specific, 3-character message code (such as U31 or F02).

mixed-data type support

Support allowing both EBCDIC (English) and DBCS (Asian language) to reside concurrently in a variable to indicate whether EBCDIC or DBCS characters are present. Set by the SO/SI attribute in Screen Design or by the MIXMODE ON statement in programming mode.

mnemonic

A 1-character code that displays an action bar pull-down. For example, entering P (for program) in the Selection field of the action bar displays the action bar pull-down for Program Design.

multiple buffering

Same as Leveling.

notification message

An information or status message that displays at the bottom of your screen, for example, 001: READY or FO3: MORE RECORDS FOLLOW.

nucleus

Procedures and modules of MANTIS that direct the execution of MANTIS programs and are environment-independent.

nulls on

A Function Option on the EDIT Program Entry screen that lets you choose trailing nulls or trailing blanks for the lines on your Full-Screen Editor screen.

numeric

BIG and SMALL variables or expressions or function outputs.

numeric data

BIG and SMALL variables or expressions or function outputs.

numeric fields

Fields defined for the input and output of numeric data only.

parameter entry screen

A type of screen that starts an action. Entry screens allow you to specify a program name, a range of program names, a generic pattern, Entry Options, and Function Options. Generally, parameter entry screens can be bypassed by supplying a program name when you request the action, for example, entering COMPOSE CUST_BROWSE@ on the command line of the Program Design Facility menu. If you do this, the default values for the Entry and Function Options for the specific action (Compose in this example) are used during execution.

p-code

An intermediate code version of the MANTIS program statements that is used to direct program interpretation (execution) and is translated to and from human-readable MANTIS statements.

PREFIX

Specification on a complex variable definition where each component simple variable has the complex variable name appended to the beginning of the generated variable name. For example, SCREEN MAP("SCR1",PREFIX) generates a variable definition for MAP_OPTION when OPTION is a field defined in the screen, "SCR1".

primary commands

FSE commands that include global editing command (e.g., FIND, CHANGE, etc.). Primary commands are entered on the command line of the Full-Screen Editor work area. See Line Commands.

procedure

A contiguous set of source code comprising a logical unit. A procedure is delineated by an ENTRY-EXIT statement pair.

process statistics

The display fields on parameter entry screens that include Processed, Replaced, Skipped, and Errors. These fields show the results of an action by incrementing by 1 each time a program is executed successfully, replaced (Copy and Rename only), skips execution, or meets an error condition during execution.

processed

A process statistic on parameter entry screens that is incremented by 1 each time a program is successfully processed for a specific action.

profile

An action that displays extended profile information for a program and provides an update function for changing program status, description, and password. In addition, Profile also shows a program's audit attribute information (selection fields, date and time stamps, program versions, user ID, and terminal ID).

program design facility

The MANTIS facility that includes enhanced Program Design options, HPO and SQL options, specific program and audit trail utilities, operations using a Trigger file, and the Component Engineering Facility (CEF) for application design.

program design facility menu

The main menu of the Program Design Facility. Group headings on this menu screen include Program, Component Engineering, Bind Options, and Utilities. Several options are listed under each of these headings on the menu screen for selecting and issuing actions.

program directory list

An online list screen of the programs in your directory, shown in alphabetic order by name. Extended profile information about each program is also provided on the Program Directory List for description, date of change, time of change, version number, and status.

program range

A block of program names you designate for processing from a parameter entry screen. You supply the starting name (From Name field) and the ending name (Thru Name field) of the range to be processed. Starting program name, ending program name, and the names that fall between the two are processed by the action.

programming mode

A state of a MANTIS task characterized by executing under FSE or LINE EDITOR.

prompt

A common dialog action that displays the current list of all valid common dialog actions and commands for a screen. The Prompt list includes common dialog actions (common to screens) and function commands (specific to the current function only). You may select an action or command with the selection character (/). When you exit from the Prompt list, your selection is executed.

prompt subset

A search on the Prompt using the wildcard characters of "*" and "?" to display a partial Prompt list of function commands and common dialog actions that meet the wildcard search criteria.

prompter

MANTIS entity for creating online help screens and documentation.

prototyping

Creating a working model of a data processing system that reflects system requirements and that can be demonstrated and refined as necessary.

pseudoconversational

A CICS (only) convention of coding where a task terminates following a terminal output, and terminal input restarts the task. The program must retain any necessary context information in order to restart itself properly. MANTIS does this via ROLLOUT/ROLLIN.

purge

An action that purges a program from your directory. The PURGE command does not purge a record from the Trigger file.

PWA

Program Work Area. A context block used to contain the contents of an executing program (the p-code).

rationalize

To remove all user words from the vocabulary that are not explicitly referenced in a program. For example, those defined by complex statement execution. This is done to eliminate run time dependencies, for example, prior to saving a program.

record layout

Provides the format in which the data in a file is stored and transmitted. You can associate an existing record layout to other file designs.

refresh

A common dialog action that updates date and time on list screens, restores the Action fields on list screens, and resets Entry and Function Options on parameter entry screens.

rename

An action that renames a program from your library to your library, and allows you to change program name, description, and password.

replace if found

A Function Option on the COPY Program Entry screen and the RENAME Program Entry screen that lets you choose whether the system overlays (replaces) a program found in your library that has the same name as the target program you designate for the Copy or Rename action.

REPLACE statement

A statement coded in the source program for the Component Engineering Facility (CEF) that names the library, program, password, and description to be created or replaced as the executable program by the Compose action.

replaced

The process statistic that displays on the COPY Program Entry screen and RENAME Program Entry screen only. The Replaced field indicates the number of programs replaced in the To Library for the Copy and Rename actions. Note that you can only copy into, or rename in, your user library.

repoint option

Way to reposition a directory list of screens, programs, prompters, and so on, by entering the 1-16 alphanumeric entity name or partial entity name. When ENTER is pressed, MANTIS repositions the list at the indicated entity name.

reserved word

A word that cannot be used for user variable names, such as, PAD, FILE, SCREEN, and so on.

retrieve

A common dialog action that redisplays the last seven commands, one at a time, issued from the command line of a screen.

right

An action that moves the columns of a list screen to the right to allow you to view all fields that extend beyond the width of your screen.

ROLLIN

The process where all context rolled out is reestablished as current context so the MANTIS program can continue.

ROLLOUT

The process where all necessary context blocks are moved to an external area or device so that the MANTIS program can resume where it left off after MANTIS regains execution control, such as at terminal input. This is used in environments where data is not maintained in memory at these situations.

running (mode)

A state of a MANTIS task characterized by executing without an editor involved, for example, a program invoked by a CHAIN from a facility menu.

S (select) line command

The S (select) line command is a Full-Screen editor command that works with CEF to allow you to select a COMPONENT or REPLACE statement from a source program to be edited in the Full-Screen Editor, or to select a SOURCE statement from a composed program to be edited.

SAA

Storage Accounting Area—from CICS macro. A prefix on a piece of acquired memory containing information about that memory, such as, size, category, and so on. Mostly obsolete but maintained for compatibility.

scenario

A prototype of an application processing system that demonstrates the use/machine interface. Scenarios can also be converted to production applications by replacing the levels in a scenario with MANTIS programs.

screen

A grouping of information arranged in a particular design. MANTIS Facilities are made up of a series of screens. You can create your own screens for application programs using the Screen Design Facility.

scroll (P H C)

A Function Option on the EDIT Program Entry screen for setting the vertical forward and backward scrolling amount for your Full-Screen Editor session. These amounts include scrolling by a full page (P), a half page (H), or from the line where the cursor is currently positioned to the top of the screen (C).

segment code

A code that is a part of the MANTIS Cluster VSAM key. This is used to identify parts of a single logical record that has been split (segmented) into multiple VSAM records.

selection field

The field of three underscores (__) on the MANTIS Facility Selection Menu that is used for the selection of displayed option numbers.

semi-reserved word

A user word which has specific meaning in some way, for example, in the MANTIS DL/I interface. These user variables are used in a prescribed manner to communicate with MANTIS components.

SETPRAY

Another name for the MANTIS Cluster and its DDNAME in CICS.

simple variable

A scalar or array defined by the TEXT, BIG, SMALL, or DBCS statements, or as a result of executing a complex statement (which implicitly defined it).

skip

An action that bypasses execution on a parameter entry screen.

skipped

A process statistic on the parameter entry screens that shows the number of programs skipped and not executed by an action. The skipped field is a display field that is incremented by 1 when a program with a status other than ACTIVE is encountered, or when you issue SKIP to bypass processing a specific program.

SMALL

A data type occupying floating point singleword precision variable. Also a reserved word and statement.

source program

A MANTIS program of source code and at least one COMPONENT statement. Source programs are not executable. The Compose action is issued on a source program to assemble (compose) it into a composed program of source code and expanded component code that you can edit and run. See Composed Program and Executable Program.

SOURCE statement

A Component Engineering Facility (CEF) statement that is coded in an executable program to name the library, program, password, and description of the source program to be created or replaced by the Decompose action.

SQL bind

For DB2 and DB2 for VSE and VM environments only. Static: Places information about a program's SQL statements and their host variables into an internal file to create an SQL support module for static execution of the program. Extended_Dynamic: Dynamically creates a DB2 for VSE and VM access module for the program, saves information about SQL statements and host variables, and makes the program immediately executable at the end of the bind.

SQL check

For DB2 and DB2 for VSE and VM environments only: Static: Determines if a program and its corresponding SQL support load module are consistent. Extended_Dynamic: Determines if the program and its corresponding DB2 for VSE and VM access module are consistent.

SQL maint

For DB2 environments only: Displays the SQL Bind Information screen and allows you to view and/or purge the information.

SQL unbind

For DB2 and DB2 for VSE and VM environments only: Static: Marks the program as not SQL bound and deletes the SQL bind information from the internal file. Extended_Dynamic: Marks the program as not SQL bound, removes additional information from the MANTIS cluster about SQL statements and host variables contained in the program, and deletes the associated DB2 for VSE and VM access module.

SSA

Segment Search Argument. A DL/I construct used to qualify which DL/I variables are being accessed for the DL/I call. It included the DL/I segment name and optionally selection (search) criteria and command codes.

stack

Generic data structure from which data items are added and removed from a single end.

statement

The smallest executable unit of a MANTIS program.

STATUS

(1) An attribute of some MANTIS entities (USER, FILE) that indicates whether the entity can be used. "ACTIVE" indicates it is available, anything else, not. (2) A value associated with complex data entities to indicate for files, PF12 for screens. (3) A feedback mechanism from certain files or database systems (VSAM, TOTAL, DL/I) in which MANTIS receives the result of the last operation against it.

status reporting

The online report you request to be generated at the end of the HPO Check, HPO Bind, and HPO Unbind processes that shows the results of processing. If you issue these actions in a batch job, the reports are printed.

symbolic name

User-defined name that represents user-defined data. In MANTIS, symbolic names represent the data to be processed by a program.

TCA

There is a 256-byte prefix (CICS requirement) which is environment dependent. In CICS, this is used as working storage.

terminate (exit)

A common dialog action that terminates the current function and returns a higher level function. For example, exiting from the Update Field Specifications function takes you back to the Screen Design Facility menu.

TEXT

A character data type containing an EBCDIC (English) text string.

TEXT character

A character data type containing an EBCDIC (English) text string.

TIOA

Terminal Input/Output Area—from CICS. The buffer for a terminal or printer.

TPI

Teleprocessing Interface. A module which contains code specific to the host environment, such as, CICS, TIS/CM, VM/CMS, OS-BATCH.

Transfer File

A VSAM file used by the Transfer Facility to hold MANTIS entities or data for sharing between users or systems.

trigger file

An external file that holds records of the actions you issued for later online or batch execution. Trigger records include the action you issued and the program name(s) on which the action is executed. You may view trigger records online and execute individual records, or you can submit a batch job to execute all records on the Trigger file.

TWA

Transaction Work Area (or Task Work Area)—from CICS. Main context block used throughout MANTIS and TPI to hold information about the user, the task, the executing program, work areas, and other global variables. Also contains addresses to all major context blocks. Environment independent.

unbind

An action that replaces the HPO-bound version of a MANTIS program with the unbound version.

uppercase

Attribute in Screen Design to indicate whether data entry text fields are translated to uppercase characters (or remains as the user entered it). This setting is overridden by the ATTRIBUTE statement and disregarded if the terminal does not support uppercase. Uppercase is also available in Prompter Design if terminal support is available.

user code

A code that is a part of the MANTIS cluster VSAM key. This is used to identify records which belong to a given user ID. User codes less than 16 are reserved for MANTIS engineering only.

user word

The name of a MANTIS variable in a MANTIS program. Also known as a USER VARIABLE or VARIABLE. This includes all simple and complex data types.

vocabulary

Set of all user words active for a program. Also used to refer to the area where the text representation of these words are kept.

VWA

Vocabulary Work Area. A context block which contains the INDEX of the data areas (DWA) and the vocabulary area.

wildcard

The asterisk (*) used to represent an indefinite number of characters and the question mark (?) used to represent a single character in a generic pattern of program names. Enter a generic pattern using these wildcard characters in the From Name field of a parameter entry screen to designate the programs to be processed if they match the criteria of the wildcard characters. For example, CUST* processes all CUST programs; CUS? processes all programs with 4-character names beginning with CUS.

wildcard characters

The asterisk (*) is used to represent an indefinite number of characters and the question mark (?) is used to represent a single character in a generic pattern of program names. Enter a generic pattern using these wildcard characters on Directory list screens or in the Starting Name field in the Transfer Facility. For example, CUST* processes all CUST screens; CUS? processes all screens with 4-character names beginning with CUS.

window mode

Mode in MANTIS that allows you to view a screen design that is larger than the physical terminal.

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